The Plant Cell, Vol. 8, i–iv, December 1996 © 1996 American Society of Plant Physiologists

Author Index

A

Adams, Christopher C., 1569
Ahn, Ji Hoon, 1477
Ahn, Joong-Hoon, 887
Albersheim, Peter, 673
Alfano, James R., 1095, 1683
Allan, Andrew C., 1305
Allen, Ashley, 463
Allen, George C., 899
Altamura, Maria Maddalena, 477
An, Yong-Qiang, 15
Anai, Toyoaki, 2079
Apel, Klaus, 763
Assmann, Sarah M., 2359
Athma, Prasanna, 1149
Ausubel, Frederick M., 241
Avigne, Wayne T., 1209

B

Bachmann, Markus, 505
Ball, Steven, 1353
Barbier-Brygoo, Hélène, 701
Barnes, Simon A., 601
Barta, Andrea, 2255
Bauer, David W., 1095
Baulcombe, David C., 179, 1833
Baynton, Clair E., 2295
Beale, Samuel I., 2245
Beckhove, Uli, 629
Beecher, Brian, 943
Beffa, Roland S., 1001
Bellincampi, Daniela, 477
Belostotsky, Dmitry A., 1261
Bendich, Arnold J., 447
Bennett, Alan B., 1159
Bent, Andrew F., 1757
Berger, Anja, 1193
Berkowitz, Gerald A., 1545
Betzner, Andreas S., 155
Bishop, Gerard J., 959
Bisseling, Ton, 1899
Blanc, Victoria M., 1137
Blewitt, Michael, 1249
Blumwald, Eduardo, 555
Bobb, Andrew J., 305
Bögre, Laszlo, 417
Bolchi, Angelo, 69
Bonnema, Guusje, 929
Bostock, Richard M., 375
Bouget, François-Yves, 189
Bower, Michael S., 1641
Bowles, Dianna J., 333
Briggs, Steven P., 645
Britton, George, 1627
Broekaert, Willem F., 2309
Brown, Gregory G., 1961
Brown, Spencer, 573
Brownlee, Colin, 2015
Browse, John, 403, 2067
Brutnell, Thomas P., 463, 915
Buchala, Antony, 2309
Burbulis, Ian E., 1013
Burr, Benjamin, 1249
Burr, Frances A., 1249
Bush, Douglas S., 259
Bustos, Mauricio, M., 305

C

Caldeira, Maria T., 1533
Calvert, Caroline M., 333
Campbell, Wilbur H., 505
Cappelluti, Sergio, 259
Cardarelli, Maura, 477
Carpenter, Rosemary, 805
Carpita, Nick, 1451
Carrington, James C., 1669
Cervantes-Cervantes, Miguel, 259
Cervone, Felice, 477
Chapman, Kelly, 95
Chaumont, François, 587
Chen, Jychian, 463
Chen, Lih-Jen, 2117
Cheng, Wan-Hsing, 971
Chern, Maw-Shenq, 305
Chiang, Chien-Sung, 2183
Chiurazzi, Maurizio, 2057
Choi, Yang Do, 1477
Choi, Yeonhee, 1477
Chollet, Raymond, 573
Chopra, Surinder, 1149
Chourey, Prem S., 971
Chow, Helen, 137
Chrispeels, Maarten J., 587
Christie, John M., 1555
Chua, Nam-Hai, 601, 1951
Chuck, George, 1277
Citovsky, Vitaly, 363, 1699
Clore, Amy M., 2003
Cocciolone, Suzy M., 1171
Coen, Enrico S., 805, 1465
Coleman, Craig, E., 2335
Collmer, Alan, 1095, 1683
Costantino, Paolo, 477
Coupland, George, 659
Cramer, Carole L., 2381
Crawford, Nigel M., 519, 2183
Crute, Ian R., 1747
Cseke, Leland, 1137
Culiañez-Maciá, Francisco A., 1533
Culver, James N., 169
Cunningham, Francis X., Jr., 1613
Cyr, Richard J., 119, 2127

D

Dangl, Jeffery L., 251, 1793
Daniels, Mark J., 587
Daniels, Michael J., 2033
Dannenhoffer, Joanne M., 2003
Darvill, Alan G., 673
Daugherty, Christine J., 1239
Debet, Martine, 1121
Decq, André, 1353
Degenhardt, Jörg, 31
Dehesh, Katayoon, 1041
DellaPenna, Dean, 1613, 1627
Dellaporta, Steven L., 463
De Lorenzo, Giulia, 477
Delrue, Brigitte, 1353
Deng, Xiao-bing, 873
Deng, Xing-Wang, 1491, 2047
De Samblanx, Genoveva W., 2309
de Vries, Onno M. H., 985
De Vries, Sacco C., 783
De Wit, Pierre J. G. M., 929
Dickinson, Hugh G., 805
Dietrich, Robert A., 1793
Ding, Lei, 617
Dixit, Ram, 429
Doonan, John H., 1465
Dougherty, William G., 95
Drøbak, Bjørn K., 1305
Dudareva, Natalia, 1137
Durso, Neil A., 2127

E

Eckerskorn, Christoph, 2265
Edwards, Anne, 1121
Eggermont, Kristel, 2309
Ek, Bo, 1181
Elliott, Robert C., 155
English, James J., 179
Epple, Petra, 2169
Evert, Ray F., 645

F

Falk, Anders, 2033
Farmer, Edward E., 2265
Fath, Angelika, 2325
Ferl, Robert J., 759, 847, 1239
Fernandes-Carvalho, Emily, 1641
Fernandez, Carlos, 2015
Fernandez, Donna E., 1977
Ferrol, Nuria, 1159
Fischer, Robert L., 137
Fluhr, Robert, 2223
Fobert, Pierre R., 1465
Foroni, Chiara, 69
Fowler, Amanda, 539
Franklin, F. Christopher H., 713
Franklin-Tong, Vernonica E., 713, 1305
Fransz, Paul F., 823
Freialdenhoven, Andreas, 5
Freshour, Glenn, 673
Frías, Ignacio, 1533
Frommer, Wolf B., 271, 793, 1437
Frost, Louise N., 2033
Fuglevand, Geeta, 2347

G

Gadal, Pierre, 573
Gant, Stephanie J., 333
Gantt, Elisabeth, 1613
Garciadeblás, Blanca, 529
Gatz, Christiane, 477
Gaudin, Valerie, 1465
Geelen, Danny, 701
Gelvin, Stanton B., 873
Gerats, Anton G. M., 823
Gerentes, Denise, 155
Gerttula, Suzanne, 189
Gianinazzi-Pearson, Vivienne, 1871
Giglioli-Guivarc'h, Nathalie, 573
Gilchrist, David G., 375
Gilroy, Simon, 2193
Glavin, Tracy L., 2369
Goldberg, Robert B., 346
Golovkin, Maxim, 1421
Goodwin, Joel, 95
Gopalan, Suresh, 1095
Goring, Daphne R., 1641, 2369
Görlach, Jörn, 629
Griffing, Lawrence R., 1451
Grimes, Howard D., 271
Grimm, Rudolf, 2265
Gruissem, Wilhelm, 2105
Gu, Tiesheng, 1641
Gubler, Frank, 2325
Guern, Jean, 701
Guiltinan, Mark J., 1569
Gunn, Nick D., 2033
Guralnick, Benjamin, 363

H

Ha, Dang Thi Cam, 417

Hager, Achim, 1533
Hahn, Michael G., 673
Hake, Sarah, 1277
Hall, Gerald, Jr., 899
Hall, Lisa N., 915
Hamer, John E., 771, 985
Hammond-Kosack, Kim E., 1773
Handelsman, Jo, 1855
Hanson, Maureen R., 1
Harmon, Alice C., 505
Harrison, Kate, 959
Hayashi, Makoto, 1601
He, Sheng Yang, 1095
Heath, Michèle C., 393
Heberle-Bors, Erwin, 417
Heimovaara-Dijkstra, Sjoukje, 1061
Heinlein, Manfred, 747
Hengy, Georges, 629
Herbers, Karin, 793
Herman, Eliot M., 2335
Hicks, Glenn R., 1337
Higgins, Verna J., 555
Hiriart, Jean-Baptiste, 2277
Hirner, Brigitte, 1437
Hirochika, Hirohiko, 725
Hirt, Heribert, 417
Ho, Tuan-Hua David, 1107
Hofer, Rose-Marie, 1001
Hoffland, Ellis, 1225
Holub, Eric B., 2033
Honée, Guy, 929
Howe, Gregg A., 2067
Hu, Gongshe, 1367
Hu, Yi, 81, 831
Huang, Bing-Quan, 1391
Huang, Hai, 81, 831
Huang, Nien-Chen, 2183
Huang, Shurong, 15
Huber, Steven C., 505, 519
Hulbert, Scot H., 1367
Hunt, Brenda E., 323
Hunt, Michelle D., 1809
Hussey, Richard S., 1735
Huttner, Eric, 155

I

Iacobucci, Michelle, 1013
Illig, Judith, 2169
Im, Chung-soon, 2245
Innes, Roger W., 133

J

Jackson, Andrew O., 1651
Jackson, Jennie A., 2347
Jacobsen, John V., 2325
Jenkins, Gareth I., 1555, 2347
Johansson, Ingela, 1181
Jonak, Claudia, 417
Jones, Jonathan D. G., 959, 1773
Jones, Russell L., 2211, 2325
Ju, Rong, 2381
Jürgens, Gerd, 783

K

Kao, Chien-Yuan, 1171
Kasschau, Kristin D., 1669
Kato, Akira, 1601
Keegstra, Kenneth, 2093
Keim, Paul, 815
Keizer, L. C. Paul, 1589
Kendrick, Richard E., 55
Kershaw, Michael J., 985
Kessmann, Helmut, 629
Kim, Sang-Gu, 1477
Kiyosue, Tomohiro, 1323
Kjellbom, Per, 1181
Klinge, Bettina, 349
Klucher, Kevin M., 137
Knauf-Beiter, Gertrud, 629
Knetsch, Menno L. W., 1061
Knight, Heather, 489
Knight, Marc R., 489
Knogge, Wolfgang, 1711
Koch, Karen E., 1209
Kogel, Karl-Heinz, 629
Koloszvari, Michael, 859
Komeda, Yoshibumi, 735
Kondo, Hideki, 1377
Kondo, Maki, 1601
Kooman-Gersmann, Miriam, 929
Kreuzaler, Fritz, 5
Kunz, Béatrice, 2265
Kunze, Reinhard, 747
Kuo, Anling, 259
Kuppinger, Oliver, 1533
Kurth, Joachim, 5
Kwon, Young Myung, 1477

L

Lam, Eric, 1991
Lancelin, Dominique, 1027
Langdale, Jane A., 915
Langeveld, Sandra, 783
Lardizabal, Kathryn, 281
Larkins, Brian A., 2003, 2335
Larsson, Christer, 1181
Lassner, Michael W., 281
Last, Robert L., 2235
Lau, Gee, 771
Leach, Jan E., 1079
Lebedev, Nikolai, 763
Lee, Jong Seob, 1477
Li, Hsou-min, 2117
Li, Jiaxu, 2359
Li, Juan, 213, 375
Li, Xiu-Qing, 1961
Liao, Birong, 1069
Libessart, Nathalie, 1353
Lightner, Jonathan, 2067
Lin, Yakang, 293
Lincoln, Cynthia, 1277
Liu, Bo, 119
Lloyd, Alan M., 2057
Lobreaux, Stephane, 1337
Long, Deborah, 659
Long, Sharon R., 1885
Loniello, Amy O., 1095
Lopato, Sergiy, 2255
Lord, Janet M., 713
Lu, Guihua, 847
Lu, Pengzhe, 2155
Lunness, Patricia, 1465
Lurin, Claire, 701

M

Ma, Hong, 81, 831
Maddelein, Marie-Lise, 1353
Mahajan, Sunita K., 1669
Malhó, Rui, 1935
Mandoli, Dina F., 323
Manison, Nicholas F. H., 2015
Manners, John M., 2309
Marc, Jan, 2127
Marshall, Jacqueline, 1121
Martin, Cathie, 1121, 1519
Martínez-Garcia, Jaime F., 1519
Masucci, James D., 1505
Matias, Dinah D., 1641
Matsuda, Noriyuki, 2079
Matsuura, Yutaka, 735
Matters, Gail L., 2245
Matz, Eileen C., 1249
Mauch-Mani, Brigitte, 203
Maurel, Christophe, 701
Mayer, Raphael, 1951
Mayer, Ulrike, 783
Mazzurco, Maria, 1641
McCann, Maureen, 1451
McCarty, Donald R., 847, 1171, 1209
McClure, Bruce A., 943
McConn, Michele, 403
McCullough, Andrew J., 2295
McDonald, Kelly A., 1613, 1627
McDowell, John M., 15
McKinney, Elizabeth C., 15
McNellis, Timothy W., 1491
Meagher, Richard B., 15, 1261
Meier, Iris, 2105
Meins, Frederick, Jr., 1001
Meskiene, Irute, 417
Métraux, Jean-Pierre, 793, 2309
Metz, James G., 281
Meurer, Jörg, 1193
Meuwly, Philippe, 793
Michalowski, Susan, 899
Miller, Philip W., 1239
Mink, Mátyás, 417
Mireau, Hakim, 1027
Mirkov, T. Erik, 587
Mitsukawa, Norihiro, 735
Mittler, Ron, 1991
Mizukami, Yukiko, 831
Mlynárová, Ľudmila, 1589
Mogensen, H. Lloyd, 815
Molina, Antonio, 1809
Montijn, Bob M., 823
Motoyoshi, Fusao, 1377
Mou, Beiquan, 943
Mouille, Gregory, 1353
Moyano, Enriqueta, 1519
Mueller, Elisabeth, 179
Mulligan, R. Michael, 107
Murata, Minoru, 1377
Murfett, Jane, 943

N

Nadeau, Jeanette A., 213, 2155
Nakano, Akihiko, 2079
Nanninga, Nanne, 823
Nap, Jan-Peter, 1589
Narasimhulu, Soma B., 873
Nasrallah, June B., 429
Nasrallah, Mikhail E., 429
Navarro-Aviñó, Juan P., 1533
Nelson, Timothy, 463
Neuenschwander, Urs H., 1809
Newman, Winnell, 899
Ni, Min, 1041
Nichols, Karl W., 1977
Nikolau, Basil J., 1291
Nishimura, Mikio, 1601
Nishizawa, Naoko K., 601
Niu, Xiping, 1569
Nuss, Donald L., 1845

O

Oakes, Marie P., 155
Oldenburg, Delene J., 447
O'Neill, Sharman D., 213, 2155
Oostendorp, Michael, 629
Oosumi, Teruko, 735
Osbourn, Anne E., 1821
Otsuki, Hiroshi, 725
Otsuki, Yoshiaki, 725
Ottonello, Simone, 69

Oud, Oof, 823
Overvoorde, Paul J., 271

P

Pagés, Montserrat, 1533
Palevitz, Barry A., 119
Palmer, Jeffrey D., 343
Parker, Jane E., 2033
Parks, T. Dawn, 95
Paul, Anna-Lisa, 847
Paul-Pletzer, Kalanethee, 2265
Pawlowski, Katharina, 1899
Penninckx, Iris A. M. A., 2309
Penson, Simon P., 2325
Percudani, Riccardo, 69
Perera, Ranjan, 2057
Perez, Pascual, 155
Pérez-Castiñeira, Jose R., 1533
Perry, Sharyn E., 1977
Peterhänsel, Christoph, 5
Peterson, Thomas, 1149
Petrucco, Stefania, 69
Phelan, Tom, 2105
Phreaner, Christina G., 107
Pichersky, Eran, 1137
Pierre, Jean-Noël, 573
Pieterse, Corné M. J., 1225
Pink, David A. C., 1747
Plank, Christian, 417
Pogson, Barry, 1613, 1627
Porat, Ron, 2155
Pryor, Tony, 1367

Q

Qian, Daqi, 2381
Quaggio, Ronaldo B., 601
Quail, Peter H., 859, 1041
Quatrano, Ralph S., 189
Quintero, Francisco J., 529

R

Raikhel, Natasha V., 1337
Rameau, Catherine, 55
Raventos, Dora, 1951
Ray, Animesh, 2057
Raz, Vered, 2223
Reddy, Anireddy S. N., 1421
Reid, James B., 55
Reinbothe, Christiane, 763
Reinbothe, Steffen, 763
Reiser, Leonore, 137
Rentsch, Doris, 1437
Reuber, T. Lynne, 241
Reymond, Philippe, 2265
Richberg, Michael H., 1793
Richter, Todd E., 1367
Ripper, Gabriela, 783
Ritter, Claudia, 251
Robbins, Tim P., 823
Rodriguez, Maximo, 259
Rodriguez-Navarro, Alonso, 529
Rooney, Michael R., 1239
Rose, Mark S., 2139
Rossi, Gian Luigi, 69
Roth, Ronelle, 915
Rothstein, Steven J., 1641, 2369
Rowan, Rob, 539
Rudd, Jason J., 713
Russin, William A., 645
Ryals, John A., 629, 1809
Ryan, Clarence A., 2067
Ryerson, Douglas E., 393

S

Sakamoto, Wataru, 1377
Salvi, Giovanni, 477
Sarria, Rodrigo, 873
Sauer, Norbert, 2169
Savaldi, Sigal, 2223
Schaad, Mary C., 1669
Schafer, Ulrike, 2369
Scheffler, Brian E., 1249
Schiefelbein, John W., 1505
Schmelzer, Elmon, 1437
Schmid, J., 2169
Schnable, Patrick S., 1291
Schneider, Dagmar, 2105
Schuler, Mary A., 2295
Schultes, Neil P., 463
Schulze-Lefert, Paul, 5
Schumaker, Karen, 1915
Schuster, Gadi, 1409
Schuurink, Robert C., 2325
Schwartzbach, Steven D., 43
Serino, Giovanna, 477
Serrano, Ramón, 1533
Seskar, Mirjana, 1991
Sessa, Guido, 2223
Sharkey, Deirdre E., 2127
Sharkey, Thomas D., 645
Shaw, Sidney L., 189
Shen, Qingxi, 1107
Sheng, Jinsong, 1699
Sheridan, William F., 1391
Shi, Liang, 815
Shinozaki, Kazuo, 1323
Shiraishi, Naomasa, 505
Shirley, Brenda W., 1013
Shulaev, Vladimir, 1991
Sidebottom, Christopher, 1121
Signer, Ethan R., 2057
Sijen, Titia, 2277
Slusarenko, Alan J., 203
Small, Ian D., 1027
Smith, Alison M., 1121
Smith, Harley M. S., 1337
Smyth, David R., 155
Snaar-Jagalska, B. Ewa, 1061
Somerville, Chris, 1917
Somerville, Shauna, 1917
Sonnewald, Uwe, 793
Spiker, Steven, 899, 2105
Stabb, Eric V., 1855
Staub, Jeffrey M., 2047
Staub, Theo, 629
Stein, Joshua C., 429
Steiner, Henry-York, 1809
Stern, David B., 1409
Stiekema, Willem J., 1589
Stitt, Mark, 565
Strabala, Timothy J., 943
Stransky, Harald, 1533
Su, Thomas, 81
Su, Wenpei, 519
Sugimoto, Kazuhiko, 725
Sulli, Chidananda, 43
Sun, Zairen, 1613
Swaney, Sherri, 95
Swanson, Sarah J., 2211
Swinburne, June, 659
Swoboda, Ines, 417
Szymanski, Daniel B., 1069

T

Takasaki, Koichi, 2335
Takeda, Shin, 725
Talaga, Philippe, 1353
Talbot, Nicholas J., 985
Taliercio, Earl W., 971
Tang, Huixian, 1545
Taraporewala, Zenobia F., 169
Taylor, Alison R., 2015
Taylor, Crispin B., 761, 939, 1091, 1221, 1447, 1651, 2151
ten Hoopen, Rogier, 823
Tepperman, James M., 1041
Terras, Franky R. G., 2309
Terry, Matthew J., 55
Thomas, Monique, 1001
Thomma, Bart P. H. J., 2309
Thompson, William F., 899
Thomsen, Gerald, 363
Tobin, Elaine M., 31
Todd, Joselyn J., 687
Torii, Keiko U., 735, 1491
Traas, Jan, 417
Tranel, Patrick J., 2093
Trewavas, Anthony J., 489, 1305, 1935
Truernit, Elisabeth, 2169
Truong, Maria, 1627
Tsay, Yi-Fang, 2183
Tsukaya, Hirokazu, 2079
Tucker, William Q. J., 155
Tudor, Matthew, 81, 831
Turgeon, B. Gillian, 2139

U

Überlacker, Bärbel, 349
Uchimiya, Hirofumi, 2079
Ueda, Takashi, 2079

V

Vanderveer, Peter J., 645
Van Kammen, Ab, 783, 2277
van Loon, Leendert C., 1225
van Pelt, Johan A., 1225
van Wees, Saskia C. M., 1225
Vasconcelos, Aurea C., 1545
Vasil, Indra K., 1171
Vega-Palas, Miguel A., 759
Vidal, Jean, 573
Viret, Jean-Frederic, 2057
Vodkin, Lila O., 687
Volrath, Sandra, 629
Vroemen, Casper W., 783

W

Wagner, Doris, 859
Wagner, Ernst, 417
Waigmann, Elisabeth, 2255
Wakley, Gavin E., 985
Walton, Jonathan D., 887, 1723
Wang, Hong, 375
Wang, Lihua, 747
Wang, Mei, 1061
Wang, Xiao-Hui, 2057
Wang, Xuemin, 1079
Wang, Yalai, 293
Ward, Eric, 629
Watkins, Peter A. C., 1305
Wei, Ning, 2047
Weissinger, Arthur K., 899
Weller, James L., 55
Wellink, Joan, 2277
Wernsman, Earl A., 95
Werr, Wolfgang, 349
Wessels, Joseph G. H., 985
Westhoff, Peter, 1193
Whitelam, Garry C., 601
Whitney, Spencer M., 539
Whittier, Robert F., 735
Wienand, Udo, 1249
Williams, Mark A., 107
Williams, Myron N. V., 673
Williamson, Valerie Moroz, 1735

Willits, Michael G., 1809
Wilson, Kate, 659
Wood, John, 2015
Workman, Jerry L., 1569
Wu, Shaw-Jye, 617

X

Xia, Yiji, 1291
Xing, Ti, 555
Xu, Jian, 1209
Xue, Yongbiao, 805

Y

Yamaguchi-Shinozaki, Kazuko, 1323
Yang, Ge, 2139
Yang, Jianjun, 1409
Yang, Zhenbiao, 293, 2381
Yellowlees, David, 539
Yoder, O. C., 2139
Yokoyama, Ryusuke, 735
Yoo, Byung-Chun, 505
Yoshiba, Yoshu, 1323
Yoshikawa, Masanobu, 725
Young, Scott A., 1079
Yu, Kangfu, 2369

Z

Zaghi, Daniela, 477
Zhang, Min, 2127
Zhang, Mingda, 1961
Zhang, Pengnian, 1107
Zhang, Xian Sheng, 213
Zhang, Yue, 81
Zhao, Jianmin, 2235
Zhou, Dafeng, 2381
Zhu, Jian-kang, 293, 617
Zhu, Tong, 815
Zielinski, Raymond E., 1069
Zurek, Daniel M., 943

The Plant Cell, Vol. 8, v–xxviii, December 1996 © 1996 American Society of Plant Physiologists

Subject Index

A

AAL toxins
H. Wang, J. Li, R. M. Bostock, and D. G. Gilchrist: Apoptosis: A Functional Paradigm for Programmed Plant Cell Death Induced by a Host-Selective Phytotoxin and Invoked during Development, 375–391

Abscisic acid
S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209
C.-Y. Kao, S. M. Cocciolone, I. K. Vasil, and D. R. McCarty: Localization and Interaction of the *cis*-Acting Elements for Abscisic Acid, VIVIPAROUS1, and Light Activation of the *C1* Gene of Maize, 1171–1179
M. L. W. Knetsch, M. Wang, B. E. Snaar-Jagalska, and S. Heimovaara-Dijkstra: Abscisic Acid Induces Mitogen-Activated Protein Kinase Activation in Barley Aleurone Protoplasts, 1061–1067
A. Kuo, S. Cappelluti, M. Cervantes-Cervantes, M. Rodriguez, and D. S. Bush: Okadaic Acid, a Protein Phosphatase Inhibitor, Blocks Calcium Changes, Gene Expression, and Cell Death Induced by Gibberellin in Wheat Aleurone Cells, 259–269
J. Li and S. M. Assmann: An Abscisic Acid–Activated and Calcium-Independent Protein Kinase from Guard Cells of Fava Bean, 2359–2368
G. Lu, A.-L. Paul, D. R. McCarty, and R. J. Ferl: Transcription Factor Veracity: Is GBF3 Responsible for ABA-Regulated Expression of Arabidopsis *Adh*?, 847–857
S. P. Penson, R. C. Schuurink, A. Fath, F. Gubler, J. V. Jacobsen, and R. L. Jones: cGMP Is Required for Gibberellic Acid–Induced Gene Expression in Barley Aleurone, 2325–2333
S. J. Swanson and R. L. Jones: Gibberellic Acid Induces Vacuolar Acidification in Barley Aleurone, 2211–2221

Abscisic acid response complexes
Q. Shen, P. Zhang, and T.-H. D. Ho: Modular Nature of Abscisic Acid (ABA) Response Complexes: Composite Promoter Units That Are Necessary and Sufficient for ABA Induction of Gene Expression in Barley, 1107–1119

Abscisic acid–activated protein kinase
J. Li and S. M. Assmann: An Abscisic Acid–Activated and Calcium-Independent Protein Kinase from Guard Cells of Fava Bean, 2359–2368

Acetabularia acetabulum
D. F. Mandoli and B. E. Hunt: *kurkku*, a Phenotype of *Acetabularia acetabulum* That Is Arrested in Vegetative Growth, Can Be Rescued with Wild-Type Cytoplasm, 323–332

Actin
F.-Y. Bouguet, S. Gerttula, S. L. Shaw, and R. S. Quatrano: Localization of Actin mRNA during the Establishment of Cell Polarity and Early Cell Divisions in *Fucus* Embryos, 189–201
C. M. Calvert, S. J. Gant, and D. J. Bowles: Tomato Annexins p34 and p35 Bind to F-Actin and Display Nucleotide Phosphodiesterase Activity Inhibited by Phospholipid Binding, 333–342
A. M. Clore, J. M. Dannenhoffer, and B. A. Larkins: EF-1α Is Associated with a Cytoskeletal Network Surrounding Protein Bodies in Maize Endosperm Cells, 2003–2014

Actin genes
Y.-Q. An, S. Huang, J. M. McDowell, E. C. McKinney, and R. B. Meagher: Conserved Expression of the Arabidopsis *ACT1* and *ACT3* Actin Subclass in Organ Primordia and Mature Pollen, 15–30

Actinorhizal symbiosis
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913

Activator
G. J. Bishop, K. Harrison, and J. D. G. Jones: The Tomato *Dwarf* Gene Isolated by Heterologous Transposon Tagging Encodes the First Member of a New Cytochrome P450 Family, 959–969
L. Wang, M. Heinlein, and R. Kunze: Methylation Pattern of *Activator* Transposase Binding Sites in Maize Endosperm, 747–758

AGAMOUS
Y. Mizukami, H. Huang, M. Tudor, Y. Hu, and H. Ma: Functional Domains of the Floral Regulator AGAMOUS: Characterization of the DNA Binding Domain and Analysis of Dominant Negative Mutations, 831–845

AGAMOUS-like proteins
H. Huang, M. Tudor, T. Su, Y. Zhang, Y. Hu, and H. Ma: DNA Binding Properties of Two Arabidopsis MADS Domain Proteins: Binding Consensus and Dimer Formation, 81–94
S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989

Agriculture
A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771
I. R. Crute and D. A. C. Pink: Genetics and Utilization of Pathogen Resistance in Plants, 1747–1755
J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869
A. O. Jackson and C. B. Taylor: Plant–Microbe Interactions: Life and Death at the Interface, 1651–1668
V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745

Agrobacterium
B. Guralnick, G. Thomsen, and V. Citovsky: Transport of DNA into the Nuclei of Xenopus Oocytes by a Modified VirE2 Protein of Agrobacterium, 363–373
S. B. Narasimhulu, X.-b. Deng, R. Sarria, and S. B. Gelvin: Early Transcription of Agrobacterium T-DNA Genes in Tobacco and Maize, 873–886
J. Sheng and V. Citovsky: Agrobacterium–Plant Cell DNA Transport: Have Virulence Proteins, Will Travel, 1699–1710

AINTEGUMENTA
R. C. Elliott, A. S. Betzner, E. Huttner, M. P. Oakes, W. Q. J. Tucker, D. Gerentes, P. Perez, and D. R. Smyth: *AINTEGUMENTA*, an *APETALA2*-like Gene of Arabidopsis with Pleiotropic Roles in Ovule Development and Floral Organ Growth, 155–168
K. M. Klucher, H. Chow, L. Reiser, and R. L. Fischer: The *AINTEGUMENTA* Gene of Arabidopsis Required for Ovule and Female Gametophyte Development Is Related to the Floral Homeotic Gene *APETALA2*, 137–153

Alanyl–tRNA synthetases
H. Mireau, D. Lancelin, and I. D. Small: The Same Arabidopsis Gene Encodes Both Cytosolic and Mitochondrial Alanyl–tRNA Synthetases, 1027–1039

***ALATS* gene**
H. Mireau, D. Lancelin, and I. D. Small: The Same Arabidopsis Gene Encodes Both Cytosolic and Mitochondrial Alanyl–tRNA Synthetases, 1027–1039

Albugo candida
J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046

Alcohol dehydrogenase gene
G. Lu, A.-L. Paul, D. R. McCarty, and R. J. Ferl: Transcription Factor Veracity: Is GBF3 Responsible for ABA-Regulated Expression of Arabidopsis *Adh*?, 847–857

Aleurone cells
S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209
M. L. W. Knetsch, M. Wang, B. E. Snaar-Jagalska, and S. Heimovaara-Dijkstra: Abscisic Acid Induces Mitogen-Activated Protein Kinase Activation in Barley Aleurone Protoplasts, 1061–1067
A. Kuo, S. Cappelluti, M. Cervantes-Cervantes, M. Rodriguez, and D. S. Bush: Okadaic Acid, a Protein Phosphatase Inhibitor, Blocks Calcium Changes, Gene Expression, and Cell Death Induced by Gibberellin in Wheat Aleurone Cells, 259–269

S. P. Penson, R. C. Schuurink, A. Fath, F. Gubler, J. V. Jacobsen, and R. L. Jones: cGMP Is Required for Gibberellic Acid–Induced Gene Expression in Barley Aleurone, 2325–2333
S. J. Swanson and R. L. Jones: Gibberellic Acid Induces Vacuolar Acidification in Barley Aleurone, 2211–2221

Alfalfa
L. Bögre, C. Jonak, M. Mink, I. Meskiene, J. Traas, D. T. C. Ha, I. Swoboda, C. Plank, E. Wagner, E. Heberle-Bors, and H. Hirt: Developmental and Cell Cycle Regulation of Alfalfa *nucMs1*, a Plant Homolog of the Yeast Nsr1 and Mammalian Nucleolin, 417–428

Allelic diversity
Y. Xue, R. Carpenter, H. G. Dickinson, and E. S. Coen: Origin of Allelic Diversity in Antirrhinum *S* Locus RNases, 805–814

Allelism
I. R. Crute and D. A. C. Pink: Genetics and Utilization of Pathogen Resistance in Plants, 1747–1755

Alternaria
J. D. Walton: Host-Selective Toxins: Agents of Compatibility, 1723–1733

Alternaria alternata* f sp *lycopersici
H. Wang, J. Li, R. M. Bostock, and D. G. Gilchrist: Apoptosis: A Functional Paradigm for Programmed Plant Cell Death Induced by a Host-Selective Phytotoxin and Invoked during Development, 375–391

Alternaria brassicicola
I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323

Alternative splicing
M. Golovkin and A. S. N. Reddy: Structure and Expression of a Plant U1 snRNP 70K Gene: Alternative Splicing of U1 snRNP 70K Pre-mRNAs Produces Two Different Transcripts, 1421–1435

Amino acid permeases
D. Rentsch, B. Hirner, E. Schmelzer, and W. B. Frommer: Salt Stress–Induced Proline Transporters and Salt Stress–Repressed Broad Specificity Amino Acid Permeases Identified by Suppression of a Yeast Amino Acid Permease–Targeting Mutant, 1437–1446

Amino acid transporters
C. B. Taylor: Proline and Water Deficit: Ups, Downs, Ins, and Outs (In This Issue), 1221–1224

Annexins
C. M. Calvert, S. J. Gant, and D. J. Bowles: Tomato Annexins p34 and p35 Bind to F-Actin and Display Nucleotide Phosphodiesterase Activity Inhibited by Phospholipid Binding, 333–342

Anthers
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

Anthocyanin biosynthesis
F. A. Burr, B. Burr, B. E. Scheffler, M. Blewitt, U. Wienand, and E. C. Matz: The Maize Repressor-like Gene *intensifier1* Shares Homology with the *r1/b1* Multigene Family of Transcription Factors and Exhibits Missplicing, 1249–1259

Antibiotics
J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869

Antifungal compounds
A. E. Osbourn: Preformed Antimicrobial Compounds and Plant Defense against Fungal Attack, 1821–1831

Antirrhinum
P. R. Fobert, V. Gaudin, P. Lunness, E. S. Coen, and J. H. Doonan: Distinct Classes of *cdc2*-Related Genes Are Differentially Expressed during the Cell Division Cycle in Plants, 1465–1476
E. Moyano, J. F. Martínez-Garcia, and C. Martin: Apparent Redundancy in *myb* Gene Function Provides Gearing for the Control of Flavonoid Biosynthesis in Antirrhinum Flowers, 1519–1532
Y. Xue, R. Carpenter, H. G. Dickinson, and E. S. Coen: Origin of Allelic Diversity in Antirrhinum *S* Locus RNases, 805–814

APETALA2
K. M. Klucher, H. Chow, L. Reiser, and R. L. Fischer: The *AINTEGUMENTA* Gene of Arabidopsis Required for Ovule and Female Gametophyte Development Is Related to the Floral Homeotic Gene *APETALA2*, 137–153
K. Wilson, D. Long, J. Swinburne, and G. Coupland: A *Dissociation* Insertion Causes a Semidominant Mutation That Increases Expression of *TINY*, an Arabidopsis Gene Related to *APETALA2*, 659–671

***APETALA2*-like gene**
R. C. Elliott, A. S. Betzner, E. Huttner, M. P. Oakes, W. Q. J. Tucker, D. Gerentes, P. Perez, and D. R. Smyth: *AINTEGUMENTA*, an *APETALA2*-like Gene of Arabidopsis with Pleiotropic Roles in Ovule Development and Floral Organ Growth, 155–168

Apical meristems
G. Chuck, C. Lincoln, and S. Hake: *KNAT1* Induces Lobed Leaves with Ectopic Meristems When Overexpressed in Arabidopsis, 1277–1289

Apoplast
J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698

Apoptosis
J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807
H. Wang, J. Li, R. M. Bostock, and D. G. Gilchrist: Apoptosis: A Functional Paradigm for Programmed Plant Cell Death Induced by a Host-Selective Phytotoxin and Invoked during Development, 375–391

Appressorium development
N. J. Talbot, M. J. Kershaw, G. E. Wakley, O. M. H. de Vries, J. G. H. Wessels, and J. E. Hamer: *MPG1* Encodes a Fungal Hydrophobin Involved in Surface Interactions during Infection-Related Development of *Magnaporthe grisea*, 985–999

Aquaporins
M. J. Daniels, F. Chaumont, T. E. Mirkov, and M. J. Chrispeels: Characterization of a New Vacuolar Membrane Aquaporin Sensitive to Mercury at a Unique Site, 587–599
I. Johansson, C. Larsson, B. Ek, and P. Kjellbom: The Major Integral Proteins of Spinach Leaf Plasma Membranes Are Putative Aquaporins and Are Phosphorylated in Response to Ca^{2+} and Apoplastic Water Potential, 1181–1191

Ara proteins
T. Ueda, N. Matsuda, T. Anai, H. Tsukaya, H. Uchimiya, and A. Nakano: An Arabidopsis Gene Isolated by a Novel Method for Detecting Genetic Interaction in Yeast Encodes the GDP Dissociation Inhibitor of Ara4 GTPase, 2079–2091

Arabidopsis
Y.-Q. An, S. Huang, J. M. McDowell, E. C. McKinney, and R. B. Meagher: Conserved Expression of the Arabidopsis *ACT1* and *ACT3* Actin Subclass in Organ Primordia and Mature Pollen, 15–30
S. A. Barnes, N. K. Nishizawa, R. B. Quaggio, G. C. Whitelam, and N.-H. Chua: Far-Red Light Blocks Greening of Arabidopsis Seedlings via a Phytochrome A–Mediated Change in Plastid Development, 601–615.
D. A. Belostotsky and R. B. Meagher: A Pollen-, Ovule-, and Early Embryo-Specific Poly(A) Binding Protein from Arabidopsis Complements Essential Functions in Yeast, 1261–1275
M. S. Bower, D. D. Matias, E. Fernandes-Carvalho, M. Mazzurco, T. Gu, S. J. Rothstein, and D. R. Goring: Two Members of the Thioredoxin-h Family Interact with the Kinase Domain of a Brassica *S* Locus Receptor Kinase, 1641–1650
I. E. Burbulis, M. Iacobucci, and B. W. Shirley: A Null Mutation in the First Enzyme of Flavonoid Biosynthesis Does Not Affect Male Fertility in Arabidopsis, 1013–1025
M. Chiurazzi, A. Ray, J.-F. Viret, R. Perera, X.-H. Wang, A. M. Lloyd, and E. R. Signer: Enhancement of Somatic Intrachromosomal Homologous Recombination in Arabidopsis by the HO Endonuclease, 2057–2066
J. M. Christie and G. I. Jenkins: Distinct UV-B and UV-A/Blue Light Signal Transduction Pathways Induce Chalcone Synthase Gene Expression in Arabidopsis Cells, 1555–1567
G. Chuck, C. Lincoln, and S. Hake: *KNAT1* Induces Lobed Leaves with Ectopic Meristems When Overexpressed in Arabidopsis, 1277–1289
F. X. Cunningham, Jr., B. Pogson, Z. Sun, K. A. McDonald, D. DellaPenna, and E. Gantt: Functional Analysis of the β and ε Lycopene Cyclase Enzymes of Arabidopsis Reveals a Mechanism for Control of Cyclic Carotenoid Formation, 1613–1626

M. J. Daniels, F. Chaumont, T. E. Mirkov, and M. J. Chrispeels: Characterization of a New Vacuolar Membrane Aquaporin Sensitive to Mercury at a Unique Site, 587–599
C. J. Daugherty, M. F. Rooney, P. W. Miller, and R. J. Ferl: Molecular Organization and Tissue-Specific Expression of an Arabidopsis 14-3-3 Gene, 1239–1248
R. C. Elliott, A. S. Betzner, E. Huttner, M. P. Oakes, W. Q. J. Tucker, D. Gerentes, P. Perez, and D. R. Smyth: *AINTEGUMENTA*, an *APETALA2*-like Gene of Arabidopsis with Pleiotropic Roles in Ovule Development and Floral Organ Growth, 155–168
G. Fuglevand, J. A. Jackson, and G. I. Jenkins: UV-B, UV-A, and Blue Light Signal Transduction Pathways Interact Synergistically to Regulate Chalcone Synthase Gene Expression in Arabidopsis, 2347–2357
M. Golovkin and A. S. N. Reddy: Structure and Expression of a Plant U1 snRNP 70K Gene: Alternative Splicing of U1 snRNP 70K Pre-mRNAs Produces Two Different Transcripts, 1421–1435
S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105
H. Huang, M. Tudor, T. Su, Y. Zhang, Y. Hu, and H. Ma: DNA Binding Properties of Two Arabidopsis MADS Domain Proteins: Binding Consensus and Dimer Formation, 81–94
N.-C. Huang, C.-S. Chiang, N. M. Crawford, and Y.-F. Tsay: *CHL1* Encodes a Component of the Low-Affinity Nitrate Uptake System in Arabidopsis and Shows Cell Type–Specific Expression in Roots, 2183–2191
R. W. Innes: Plant–Pathogen Interactions: Unexpected Findings on Signal Input and Output (In This Issue), 133–136
A. Kato, M. Hayashi, M. Kondo, and M. Nishimura: Targeting and Processing of a Chimeric Protein with the N-Terminal Presequence of the Precursor to Glyoxysomal Citrate Synthase, 1601–1611
T. Kiyosue, Y. Yoshiba, K. Yamaguchi-Shinozaki, and K. Shinozaki: A Nuclear Gene Encoding Mitochondrial Proline Dehydrogenase, an Enzyme Involved in Proline Metabolism, Is Upregulated by Proline but Downregulated by Dehydration in Arabidopsis, 1323–1335
K. M. Klucher, H. Chow, L. Reiser, and R. L. Fischer: The *AINTEGUMENTA* Gene of Arabidopsis Required for Ovule and Female Gametophyte Development Is Related to the Floral Homeotic Gene *APETALA2*, 137–153
H. Knight, A. J. Trewavas, and M. R. Knight: Cold Calcium Signaling in Arabidopsis Involves Two Cellular Pools and a Change in Calcium Signature after Acclimation, 489–503
M. W. Lassner, K. Lardizabal, and J. G. Metz: A Jojoba β-Ketoacyl–CoA Synthase cDNA Complements the Canola Fatty Acid Elongation Mutation in Transgenic Plants, 281–292
B. Liu, R. J. Cyr, and B. A. Palevitz: A Kinesin-like Protein, KatAp, in the Cells of Arabidopsis and Other Plants, 119–132
S. Lopato, E. Waigmann, and A. Barta: Characterization of a Novel Arginine/Serine–Rich Splicing Factor in Arabidopsis, 2255–2264
G. Lu, A.-L. Paul, D. R. McCarty, and R. J. Ferl: Transcription Factor Veracity: Is GBF3 Responsible for ABA-Regulated Expression of Arabidopsis *Adh*?, 847–857
P. Lu, R. Porat, J. A. Nadeau, and S. D. O'Neill: Identification of a Meristem L1 Layer-Specific Gene in Arabidopsis That Is Expressed during Embryonic Pattern Formation and Defines a New Class of Homeobox Genes, 2155–2168
J. D. Masucci and J. W. Schiefelbein: Hormones Act Downstream of *TTG* and *GL2* to Promote Root Hair Outgrowth during Epidermis Development in the Arabidopsis Root, 1505–1517
B. Mauch-Mani and A. J. Slusarenko: Production of Salicylic Acid Precursors Is a Major Function of Phenylalanine Ammonia-Lyase in the Resistance of Arabidopsis to *Peronospora parasitica*, 203–212
R. Mayer, D. Raventos, and N.-H. Chua: *det1*, *cop1*, and *cop9* Mutations Cause Inappropriate Expression of Several Gene Sets, 1951–1959
M. McConn and J. Browse: The Critical Requirement for Linolenic Acid Is Pollen Development, Not Photosynthesis, in an Arabidopsis Mutant, 403–416
T. W. McNellis, K. U. Torii, and X.-W. Deng: Expression of an N-Terminal Fragment of COP1 Confers a Dominant-Negative Effect on Light-Regulated Seedling Development in Arabidopsis, 1491–1503
J. Meurer, A. Berger, and P. Westhoff: A Nuclear Mutant of Arabidopsis with Impaired Stability on Distinct Transcripts of the Plastid *psbB*, *psbD/C*, *ndhH*, and *ndhC* Operons, 1193–1207
H. Mireau, D. Lancelin, and I. D. Small: The Same Arabidopsis Gene Encodes Both Cytosolic and Mitochondrial Alanyl–tRNA Synthetases, 1027–1039
Y. Mizukami, H. Huang, M. Tudor, Y. Hu, and H. Ma: Functional Domains of the Floral Regulator AGAMOUS: Characterization of the DNA Binding Domain and Analysis of Dominant Negative Mutations, 831–845
J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046
I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323
S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989
C. M. J. Pieterse, S. C. M. van Wees, E. Hoffland, J. A. van Pelt, and L. C. van Loon: Systemic Resistance in Arabidopsis Induced by Biocontrol Bacteria Is Independent of Salicylic Acid Accumulation and Pathogenesis-Related Gene Expression, 1225–1237
B. Pogson, K. A. McDonald, M. Truong, G. Britton, and D. DellaPenna: Arabidopsis Carotenoid Mutants Demonstrate That Lutein Is Not Essential for Photosynthesis in Higher Plants, 1627–1639
F. J. Quintero, B. Garciadeblás, and A. Rodríguez-Navarro: The *SAL1* Gene of Arabidopsis, Encoding an Enzyme with 3′(2′), 5′-Bisphosphate Nucleotidase and Inositol Polyphosphate 1-Phosphatase Activities, Increases Salt Tolerance in Yeast, 529–537
D. Rentsch, B. Hirner, E. Schmelzer, and W. B. Frommer: Salt Stress–Induced Proline Transporters and Salt Stress–Repressed Broad Specificity Amino Acid Permeases Identified by Suppression of a Yeast Amino Acid Permease–Targeting Mutant, 1437–1446
T. L. Reuber and F. M. Ausubel: Isolation of Arabidopsis Genes That Differentiate between Resistance Responses Mediated by the *RPS2* and *RPM1* Disease Resistance Genes, 241–249
C. Ritter and J. L. Dangl: Interference between Two Specific Pathogen Recognition Events Mediated by Distinct Plant Disease Resistance Genes, 251–257
J. A. Ryals, U. H. Neuenschwander, M. G. Willits, A. Molina, H.-Y. Steiner, and M. D. Hunt: Systemic Acquired Resistance, 1809–1819
W. Sakamoto, H. Kondo, M. Murata, and F. Motoyoshi: Altered Mitochondrial Gene Expression in a Maternal Distorted Leaf Mutant of Arabidopsis Induced by *chloroplast mutator*, 1377–1390
S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933
J. M. Staub, N. Wei, and X.-W. Deng: Evidence for FUS6 as a Component of the Nuclear-Localized COP9 Complex in Arabidopsis, 2047–2056
W. Su, S. C. Huber, and N. M. Crawford: Identification in Vitro of a Post-Translational Regulatory Site in the Hinge 1 Region of Arabidopsis Nitrate Reductase, 519–527
D. B. Szymanski, B. Liao, and R. E. Zielinski: Calmodulin Isoforms Differentially Enhance the Binding of Cauliflower Nuclear Proteins and Recombinant TGA3 to a Region Derived from the Arabidopsis *Cam-3* Promoter, 1069–1077
H. Tang, A. C. Vasconcelos, and G. A. Berkowitz: Physical Association of KAB1 with Plant K^+ Channel α Subunits, 1545–1553
C. B. Taylor: Control of Cyclic Carotenoid Biosynthesis: No Lutein, No Problem! (In This Issue), 1447–1450
K. U. Torii, N. Mitsukawa, T. Oosumi, Y. Matsuura, R. Yokoyama, R. F. Whittier, and Y. Komeda: The Arabidopsis *ERECTA* Gene Encodes a Putative Receptor Protein Kinase with Extracellular Leucine-Rich Repeats, 735–746

E. Truernit, J. Schmid, P. Epple, J. Illig, and N. Sauer: The Sink-Specific and Stress-Regulated Arabidopsis *STP4* Gene: Enhanced Expression of a Gene Encoding a Monosaccharide Transporter by Wounding, Elicitors, and Pathogen Challenge, 2169–2182

T. Ueda, N. Matsuda, T. Anai, H. Tsukaya, H. Uchimiya, and A. Nakano: An Arabidopsis Gene Isolated by a Novel Method for Detecting Genetic Interaction in Yeast Encodes the GDP Dissociation Inhibitor of Ara4 GTPase, 2079–2091

C. W. Vroemen, S. Langeveld, U. Mayer, G. Ripper, G. Jürgens, A. Van Kammen, and S. C. De Vries: Pattern Formation in the Arabidopsis Embryo Revealed by Position-Specific Lipid Transfer Protein Gene Expression, 783–791

D. Wagner, M. Koloszvari, and P. H. Quail: Two Small Spatially Distinct Regions of Phytochrome B Are Required for Efficient Signaling Rates, 859–871

V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745

K. Wilson, D. Long, J. Swinburne, and G. Coupland: A *Dissociation* Insertion Causes a Semidominant Mutation That Increases Expression of *TINY*, an Arabidopsis Gene Related to *APETALA2*, 659–671

S.-J. Wu, L. Ding, and J.-K. Zhu: *SOS1*, a Genetic Locus Essential for Salt Tolerance and Potassium Acquisition, 617–627

Y. Xia, B. J. Nikolau, and P. S. Schnable: Cloning and Characterization of *CER2*, an Arabidopsis Gene That Affects Cuticular Wax Accumulation, 1291–1304

J. Zhao and R. L. Last: Coordinate Regulation of the Tryptophan Biosynthetic Pathway and Indolic Phytoalexin Accumulation in Arabidopsis, 2235–2244

Arabidopsis lipid transfer protein gene

C. W. Vroemen, S. Langeveld, U. Mayer, G. Ripper, G. Jürgens, A. Van Kammen, and S. C. De Vries: Pattern Formation in the Arabidopsis Embryo Revealed by Position-Specific Lipid Transfer Protein Gene Expression, 783–791

Arabidopsis mutants

S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933

Arbuscular mycorrhiza

V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883

Arginine/serine-rich splicing factors

S. Lopato, E. Waigmann, and A. Barta: Characterization of a Novel Arginine/Serine-Rich Splicing Factor in Arabidopsis, 2255–2264

***ATML1* gene**

P. Lu, R. Porat, J. A. Nadeau, and S. D. O'Neill: Identification of a Meristem L1 Layer-Specific Gene in Arabidopsis That Is Expressed during Embryonic Pattern Formation and Defines a New Class of Homeobox Genes, 2155–2168

***AtNRT1* gene**

N.-C. Huang, C.-S. Chiang, N. M. Crawford, and Y.-F. Tsay: *CHL1* Encodes a Component of the Low-Affinity Nitrate Uptake System in Arabidopsis and Shows Cell Type–Specific Expression in Roots, 2183–2191

atRSp31

S. Lopato, E. Waigmann, and A. Barta: Characterization of a Novel Arginine/Serine-Rich Splicing Factor in Arabidopsis, 2255–2264

Auxin

D. Bellincampi, M. Cardarelli, D. Zaghi, G. Serino, G. Salvi, C. Gatz, F. Cervone, M. M. Altamura, P. Costantino, and G. De Lorenzo: Oligogalacturonides Prevent Rhizogenesis in *rolB*-Transformed Tobacco Explants by Inhibiting Auxin-Induced Expression of the *rolB* Gene, 477–487

I. Frías, M. T. Caldeira, J. R. Pérez-Castiñeira, J. P. Navarro-Aviñó, F. A. Culiañez-Maciá, O. Kuppinger, H. Stransky, M. Pagés, A. Hager, and R. Serrano: A Major Isoform of the Maize Plasma Membrane H^+-ATPase: Characterization and Induction by Auxin in Coleoptiles, 1533–1544

J. D. Masucci and J. W. Schiefelbein: Hormones Act Downstream of *TTG* and *GL2* to Promote Root Hair Outgrowth during Epidermis Development in the Arabidopsis Root, 1505–1517

Avirulence genes

A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771

I. R. Crute and D. A. C. Pink: Genetics and Utilization of Pathogen Resistance in Plants, 1747–1755

K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791

W. Knogge: Fungal Infection of Plants, 1711–1722

Avirulence Proteins

J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698

S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105

M. Kooman-Gersmann, G. Honée, G. Bonnema, and P. J. G. M. De Wit: A High-Affinity Binding Site for the AVR9 Peptide Elicitor of *Cladosporium fulvum* Is Present on Plasma Membranes of Tomato and Other Solanaceous Plants, 929–938

C. B. Taylor: Inside Avirulence (In This Issue), 1091–1093

***avrRpt2*-induced genes**

T. L. Reuber and F. M. Ausubel: Isolation of Arabidopsis Genes That Differentiate between Resistance Responses Mediated by the *RPS2* and *RPM1* Disease Resistance Genes, 241–249

C. Ritter and J. L. Dangl: Interference between Two Specific Pathogen Recognition Events Mediated by Distinct Plant Disease Resistance Genes, 251–257

B

B chromosome

L. Shi, T. Zhu, H. L. Mogensen, and P. Keim: Sperm Identification in Maize by Fluorescence in Situ Hybridization, 815–821

Barley

A. Freialdenhoven, C. Peterhänsel, J. Kurth, F. Kreuzaler, and P. Schulze-Lefert: Identification of Genes Required for the Function of Non-Race-Specific *mlo* Resistance to Powdery Mildew in Barley, 5–14

S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209

M. L. W. Knetsch, M. Wang, B. E. Snaar-Jagalska, and S. Heimovaara-Dijkstra: Abscisic Acid Induces Mitogen-Activated Protein Kinase Activation in Barley Aleurone Protoplasts, 1061–1067

G. Lau and J. E. Hamer: Regulatory Genes Controlling *MPG1* Expression and Pathogenicity in the Rice Blast Fungus *Magnaporthe grisea*, 771–781

S. P. Penson, R. C. Schuurink, A. Fath, F. Gubler, J. V. Jacobsen, and R. L. Jones: cGMP Is Required for Gibberellic Acid–Induced Gene Expression in Barley Aleurone, 2325–2333

Q. Shen, P. Zhang, and T.-H. D. Ho: Modular Nature of Abscisic Acid (ABA) Response Complexes: Composite Promoter Units That Are Necessary and Sufficient for ABA Induction of Gene Expression in Barley, 1107–1119

S. J. Swanson and R. L. Jones: Gibberellic Acid Induces Vacuolar Acidification in Barley Aleurone, 2211–2221

Basic leucine zipper protein

X. Niu, C. C. Adams, J. L. Workman, and M. J. Guiltinan: Binding of the Wheat Basic Leucine Zipper Protein EmBP-1 to Nucleosomal Binding Sites Is Modulated by Nucleosome Positioning, 1569–1587

Bean

M.-S. Chern, A. J. Bobb, and M. M. Bustos: The Regulator of *MAT2* (ROM2) Protein Binds to Early Maturation Promoters and Represses PvALF-Activated Transcription, 305–321

Benzoic acid

K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791

Benzothiadiazole

J. Görlach, S. Volrath, G. Knauf-Beiter, G. Hengy, U. Beckhove, K.-H. Kogel, M. Oostendorp, T. Staub, E. Ward, H. Kessmann, and J. Ryals: Benzothiadiazole, a Novel Class of Inducers of Systemic Acquired Resistance, Activates Gene Expression and Disease Resistance in Wheat, 629–643

Benzo(1,2,3)thiadiazole-7-carbothioic acid *S*-methyl ester

J. A. Ryals, U. H. Neuenschwander, M. G. Willits, A. Molina, H.-Y. Steiner, and M. D. Hunt: Systemic Acquired Resistance, 1809–1819

Biliverdin IXα
J. L. Weller, M. J. Terry, C. Rameau, J. B. Reid, and R. E. Kendrick: The Phytochrome-Deficient *pcd1* Mutant of Pea Is Unable to Convert Heme to Biliverdin IXα, 55–67

Biological control
J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869
A. O. Jackson and C. B. Taylor: Plant–Microbe Interactions: Life and Death at the Interface, 1651–1668

3′(2′),5′-Bisphosphate nucleotidase
F. J. Quintero, B. Garciadeblás, and A. Rodríguez-Navarro: The *SAL1* Gene of Arabidopsis, Encoding an Enzyme with 3′(2′), 5′-Bisphosphate Nucleotidase and Inositol Polyphosphate 1-Phosphatase Activities, Increases Salt Tolerance in Yeast, 529–537

Brassica
M. S. Bower, D. D. Matias, E. Fernandes-Carvalho, M. Mazzurco, T. Gu, S. J. Rothstein, and D. R. Goring: Two Members of the Thioredoxin-h Family Interact with the Kinase Domain of a Brassica *S* Locus Receptor Kinase, 1641–1650
S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989

Brassica napus
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

Brassica oleracea
J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046
J. C. Stein, R. Dixit, M. E. Nasrallah, and J. B. Nasrallah: SRK, the Stigma-Specific S Locus Receptor Kinase of Brassica, Is Targeted to the Plasma Membrane in Transgenic Tobacco, 429–445

***bsd2-m1* maize mutant**
R. Roth, L. N. Hall, T. P. Brutnell, and J. A. Langdale: *bundle sheath defective2*, a Mutation That Disrupts the Coordinated Development of Bundle Sheath and Mesophyll Cells in the Maize Leaf, 915–927
C. B. Taylor: C_3 or C_4? Maize Mutations and the Elaboration of Kranz Anatomy (In This Issue), 761–762

C

***C1* gene**
C.-Y. Kao, S. M. Cocciolone, I. K. Vasil, and D. R. McCarty: Localization and Interaction of the *cis*-Acting Elements for Abscisic Acid, VIVIPAROUS1, and Light Activation of the *C1* Gene of Maize, 1171–1179

C_4 photosynthesis
N. P. Schultes, T. P. Brutnell, A. Allen, S. L. Dellaporta, T. Nelson, and J. Chen: *Leaf permease1* Gene of Maize Is Required for Chloroplast Development, 463–475
C. B. Taylor: C_3 or C_4? Maize Mutations and the Elaboration of Kranz Anatomy (In This Issue), 761–762

Ca^{2+}-ATPases
N. Ferrol and A. B. Bennett: A Single Gene May Encode Differentially Localized Ca^{2+}-ATPases in Tomato, 1159–1169

Caenorhabditis elegans
V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745

Calcium
M. Bachmann, N. Shiraishi, W. H. Campbell, B.-C. Yoo, A. C. Harmon, and S. C. Huber: Identification of Ser-543 as the Major Regulatory Phosphorylation Site in Spinach Leaf Nitrate Reductase, 505–517
J. M. Christie and G. I. Jenkins: Distinct UV-B and UV-A/Blue Light Signal Transduction Pathways Induce Chalcone Synthase Gene Expression in Arabidopsis Cells, 1555–1567
V. E. Franklin-Tong, B. K. Drøbak, A. C. Allan, P. A. C. Watkins, and A. J. Trewavas: Growth of Pollen Tubes of *Papaver rhoeas* Is Regulated by a Slow-Moving Calcium Wave Propagated by Inositol 1,4,5-Trisphosphate, 1305–1321
S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
I. Johansson, C. Larsson, B. Ek, and P. Kjellbom: The Major Integral Proteins of Spinach Leaf Plasma Membranes Are Putative Aquaporins and Are Phosphorylated in Response to Ca^{2+} and Apoplastic Water Potential, 1181–1191
H. Knight, A. J. Trewavas, and M. R. Knight: Cold Calcium Signaling in Arabidopsis Involves Two Cellular Pools and a Change in Calcium Signature after Acclimation, 489–503
A. Kuo, S. Cappelluti, M. Cervantes-Cervantes, M. Rodriguez, and D. S. Bush: Okadaic Acid, a Protein Phosphatase Inhibitor, Blocks Calcium Changes, Gene Expression, and Cell Death Induced by Gibberellin in Wheat Aleurone Cells, 259–269
J. Li and S. M. Assmann: An Abscisic Acid–Activated and Calcium-Independent Protein Kinase from Guard Cells of Fava Bean, 2359–2368
R. Malhó and A. J. Trewavas: Localized Apical Increases of Cytosolic Free Calcium Control Pollen Tube Orientation, 1935–1949
K. Schumaker: Spikes and Waves: Calcium-Mediated Signaling in Tip-Growing Cells (In This Issue), 1915–1916
A. R. Taylor, N. F. H. Manison, C. Fernandez, J. Wood, and C. Brownlee: Spatial Organization of Calcium Signaling Involved in Cell Volume Control in the Fucus Rhizoid, 2015–2031

Calmodulin
S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
D. B. Szymanski, B. Liao, and R. E. Zielinski: Calmodulin Isoforms Differentially Enhance the Binding of Cauliflower Nuclear Proteins and Recombinant TGA3 to a Region Derived from the Arabidopsis *Cam-3* Promoter, 1069–1077

Camalexin
J. Zhao and R. L. Last: Coordinate Regulation of the Tryptophan Biosynthetic Pathway and Indolic Phytoalexin Accumulation in Arabidopsis, 2235–2244

Canola
M. W. Lassner, K. Lardizabal, and J. G. Metz: A Jojoba β-Ketoacyl-CoA Synthase cDNA Complements the Canola Fatty Acid Elongation Mutation in Transgenic Plants, 281–292

Carotenoid biosynthesis
F. X. Cunningham, Jr., B. Pogson, Z. Sun, K. A. McDonald, D. DellaPenna, and E. Gantt: Functional Analysis of the β and ε Lycopene Cyclase Enzymes of Arabidopsis Reveals a Mechanism for Control of Cyclic Carotenoid Formation, 1613–1626
B. Pogson, K. A. McDonald, M. Truong, G. Britton, and D. DellaPenna: Arabidopsis Carotenoid Mutants Demonstrate That Lutein Is Not Essential for Photosynthesis in Higher Plants, 1627–1639
C. B. Taylor: Control of Cyclic Carotenoid Biosynthesis: No Lutein, No Problem! (In This Issue), 1447–1450

Carrot
B. Liu, R. J. Cyr, and B. A. Palevitz: A Kinesin-like Protein, KatAp, in the Cells of Arabidopsis and Other Plants, 119–132

Cauliflower
D. B. Szymanski, B. Liao, and R. E. Zielinski: Calmodulin Isoforms Differentially Enhance the Binding of Cauliflower Nuclear Proteins and Recombinant TGA3 to a Region Derived from the Arabidopsis *Cam-3* Promoter, 1069–1077

Cauliflower mosaic virus
L. Mlynárová, L. C. P. Keizer, W. J. Stiekema, and J.-P. Nap: Approaching the Lower Limits of Transgene Variability, 1589–1599

***cdc2* genes**
P. R. Fobert, V. Gaudin, P. Lunness, E. S. Coen, and J. H. Doonan: Distinct Classes of *cdc2*-Related Genes Are Differentially Expressed during the Cell Division Cycle in Plants, 1465–1476

Cell cycle
P. R. Fobert, V. Gaudin, P. Lunness, E. S. Coen, and J. H. Doonan: Distinct Classes of *cdc2*-Related Genes Are Differentially Expressed during the Cell Division Cycle in Plants, 1465–1476

Cell cycle regulation
L. Bögre, C. Jonak, M. Mink, I. Meskiene, J. Traas, D. T. C. Ha, I. Swoboda, C. Plank, E. Wagner, E. Heberle-Bors, and H. Hirt: Developmental and Cell Cycle Regulation of Alfalfa *nucMs1*, a Plant Homolog of the Yeast Nsr1 and Mammalian Nucleolin, 417–428
D. Qian, D. Zhou, R. Ju, C. L. Cramer, and Z. Yang: Protein Farnesyltransferase in Plants: Molecular Characterization and Involvement in Cell Cycle Control, 2381–2394
C. B. Taylor: Farnesylation—A Sticky Business (In This Issue), 2151–2153
Cell death control mutants
J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807
Cell division
F.-Y. Bouget, S. Gerttula, S. L. Shaw, and R. S. Quatrano: Localization of Actin mRNA during the Establishment of Cell Polarity and Early Cell Divisions in *Fucus* Embryos, 189–201
P. R. Fobert, V. Gaudin, P. Lunness, E. S. Coen, and J. H. Doonan: Distinct Classes of *cdc2*-Related Genes Are Differentially Expressed during the Cell Division Cycle in Plants, 1465–1476
X.-Q. Li, M. Zhang, and G. G. Brown: Cell-Specific Expression of Mitochondrial Transcripts in Maize Seedlings, 1961–1975
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898
Cell plate
N. Carpita, M. McCann, and L. R. Griffing: The Plant Extracellular Matrix: News from the Cell's Frontier (Meeting Report), 1451–1463
Cell wall
N. Carpita, M. McCann, and L. R. Griffing: The Plant Extracellular Matrix: News from the Cell's Frontier (Meeting Report), 1451–1463
V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883
K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene-Dependent Plant Defense Responses, 1773–1791
Cell wall invertase
W.-H. Cheng, E. W. Taliercio, and P. S. Chourey: The *Miniature1* Seed Locus of Maize Encodes a Cell Wall Invertase Required for Normal Development of Endosperm and Maternal Cells in the Pedicel, 971–983
Cellulose synthase
N. Carpita, M. McCann, and L. R. Griffing: The Plant Extracellular Matrix: News from the Cell's Frontier (Meeting Report), 1451–1463
***CER2* gene**
Y. Xia, B. J. Nikolau, and P. S. Schnable: Cloning and Characterization of *CER2*, an Arabidopsis Gene That Affects Cuticular Wax Accumulation, 1291–1304
***Cf-9* gene**
M. Kooman-Gersmann, G. Honée, G. Bonnema, and P. J. G. M. De Wit: A High-Affinity Binding Site for the AVR9 Peptide Elicitor of *Cladosporium fulvum* Is Present on Plasma Membranes of Tomato and Other Solanaceous Plants, 929–938
cGMP
S. P. Penson, R. C. Schuurink, A. Fath, F. Gubler, J. V. Jacobsen, and R. L. Jones: cGMP Is Required for Gibberellic Acid–Induced Gene Expression in Barley Aleurone, 2325–2333
Chalcone synthase
G. Fuglevand, J. A. Jackson, and G. I. Jenkins: UV-B, UV-A, and Blue Light Signal Transduction Pathways Interact Synergistically to Regulate Chalcone Synthase Gene Expression in Arabidopsis, 2347–2357
Chalcone synthase gene
I. E. Burbulis, M. Iacobucci, and B. W. Shirley: A Null Mutation in the First Enzyme of Flavonoid Biosynthesis Does Not Affect Male Fertility in Arabidopsis, 1013–1025
J. M. Christie and G. I. Jenkins: Distinct UV-B and UV-A/Blue Light Signal Transduction Pathways Induce Chalcone Synthase Gene Expression in Arabidopsis Cells, 1555–1567
J. J. Todd and L. O. Vodkin: Duplications That Suppress and Deletions That Restore Expression from a Chalcone Synthase Multigene Family, 687–699
***CHL1* gene**
N.-C. Huang, C.-S. Chiang, N. M. Crawford, and Y.-F. Tsay: *CHL1* Encodes a Component of the Low-Affinity Nitrate Uptake System in Arabidopsis and Shows Cell Type–Specific Expression in Roots, 2183–2191
Chlamydomonas
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
G. Mouille, M.-L. Maddelein, N. Libessart, P. Talaga, A. Decq, B. Delrue, and S. Ball: Preamylopectin Processing: A Mandatory Step for Starch Biosynthesis in Plants, 1353–1366
Chloride channel
C. Lurin, D. Geelen, H. Barbier-Brygoo, J. Guern, and C. Maurel: Cloning and Functional Expression of a Plant Voltage-Dependent Chloride Channel, 701–711
Chlorophyll biosynthesis
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
S. Reinbothe, C. Reinbothe, N. Lebedev, and K. Apel: PORA and PORB, Two Light-Dependent Protochlorophyllide-Reducing Enzymes of Angiosperm Chlorophyll Biosynthesis, 763–769
Chloroplast development
S. Reinbothe, C. Reinbothe, N. Lebedev, and K. Apel: PORA and PORB, Two Light-Dependent Protochlorophyllide-Reducing Enzymes of Angiosperm Chlorophyll Biosynthesis, 763–769
N. P. Schultes, T. P. Brutnell, A. Allen, S. L. Dellaporta, T. Nelson, and J. Chen: *Leaf permease1* Gene of Maize Is Required for Chloroplast Development, 463–475
chloroplast mutator
W. Sakamoto, H. Kondo, M. Murata, and F. Motoyoshi: Altered Mitochondrial Gene Expression in a Maternal Distorted Leaf Mutant of Arabidopsis Induced by *chloroplast mutator*, 1377–1390
Chloroplast stem–loop binding proteins
J. Yang, G. Schuster, and D. B. Stern: CSP41, a Sequence-Specific Chloroplast mRNA Binding Protein, Is an Endoribonuclease, 1409–1420
Chloroplasts
H.-m. Li and L.-J. Chen: Protein Targeting and Integration Signal for the Chloroplastic Outer Envelope Membrane, 2117–2126
C. Sulli and S. D. Schwartzbach: A Soluble Protein Is Imported into Euglena Chloroplasts as a Membrane-Bound Precursor, 43–53
P. J. Tranel and K. Keegstra: A Novel, Bipartite Transit Peptide Targets OEP75 to the Outer Membrane of the Chloroplastic Envelope, 2093–2104
Chromatin
I. Meier, T. Phelan, W. Gruissem, S. Spiker, and D. Schneider: MFP1, a Novel Plant Filament-like Protein with Affinity for Matrix Attachment Region DNA, 2105–2115
CIC genes
C. Lurin, D. Geelen, H. Barbier-Brygoo, J. Guern, and C. Maurel: Cloning and Functional Expression of a Plant Voltage-Dependent Chloride Channel, 701–711
Cladosporium fulvum
M. Kooman-Gersmann, G. Honée, G. Bonnema, and P. J. G. M. De Wit: A High-Affinity Binding Site for the AVR9 Peptide Elicitor of *Cladosporium fulvum* Is Present on Plasma Membranes of Tomato and Other Solanaceous Plants, 929–938
T. Xing, V. J. Higgins, and E. Blumwald: Regulation of Plant Defense Response to Fungal Pathogens: Two Types of Protein Kinases in the Reversible Phosphorylation of the Host Plasma Membrane H^+-ATPase, 555–564
Clarkia breweri
N. Dudareva, L. Cseke, V. M. Blanc, and E. Pichersky: Evolution of Floral Scent in *Clarkia*: Novel Patterns of *S*-Linalool Synthase Gene Expression in the *C. breweri* Flower, 1137–1148
Clarkia concinna
N. Dudareva, L. Cseke, V. M. Blanc, and E. Pichersky: Evolution of Floral Scent in *Clarkia*: Novel Patterns of *S*-Linalool Synthase Gene Expression in the *C. breweri* Flower, 1137–1148

Coat protein
D. C. Baulcombe: Mechanisms of Pathogen-Derived Resistance to Viruses in Transgenic Plants, 1833–1844
Z. F. Taraporewala and J. N. Culver: Identification of an Elicitor Active Site within the Three-Dimensional Structure of the Tobacco Mosaic Tobamovirus Coat Protein, 169–178
Cochliobolus
J. D. Walton: Host-Selective Toxins: Agents of Compatibility, 1723–1733
Cochliobolus carbonum
J.-H. Ahn and J. D. Walton: Chromosomal Organization of *TOX2*, a Complex Locus Controlling Host-Selective Toxin Biosynthesis in *Cochliobolus carbonum*, 887–897
Cochliobolus heterostrophus
G. Yang, M. S. Rose, B. G. Turgeon, and O. C. Yoder: A Polyketide Synthase Is Required for Fungal Virulence and Production of the Polyketide T-Toxin, 2139–2150
Cold shock
H. Knight, A. J. Trewavas, and M. R. Knight: Cold Calcium Signaling in Arabidopsis Involves Two Cellular Pools and a Change in Calcium Signature after Acclimation, 489–503
β-Conglycinin
A. J. McCullough, C. E. Baynton, and M. A. Schuler: Interactions across Exons Can Influence Splice Site Recognition in Plant Nuclei, 2295–2307
CONSTITUTIVE PHOTOMORPHOGENIC1
T. W. McNellis, K. U. Torii, and X.-W. Deng: Expression of an N-Terminal Fragment of COP1 Confers a Dominant-Negative Effect on Light-Regulated Seedling Development in Arabidopsis, 1491–1503
***constitutive photomorphogenic* mutants**
R. Mayer, D. Raventos, and N.-H. Chua: *det1*, *cop1*, and *cop9* Mutations Cause Inappropriate Expression of Several Gene Sets, 1951–1959
J. M. Staub, N. Wei, and X.-W. Deng: Evidence for FUS6 as a Component of the Nuclear-Localized COP9 Complex in Arabidopsis, 2047–2056
Coupling elements
Q. Shen, P. Zhang, and T.-H. D. Ho: Modular Nature of Abscisic Acid (ABA) Response Complexes: Composite Promoter Units That Are Necessary and Sufficient for ABA Induction of Gene Expression in Barley, 1107–1119
Cowpea mosaic virus
T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294
Cowpea rust fungus
D. E. Ryerson and M. C. Heath: Cleavage of Nuclear DNA into Oligonucleosomal Fragments during Cell Death Induced by Fungal Infection or by Abiotic Treatments, 393–402
Cryphonectria parasitica
D. L. Nuss: Using Hypoviruses to Probe and Perturb Signal Transduction Processes Underlying Fungal Pathogenesis, 1845–1853
Cryptochrome photoreceptor
G. Fuglevand, J. A. Jackson, and G. I. Jenkins: UV-B, UV-A, and Blue Light Signal Transduction Pathways Interact Synergistically to Regulate Chalcone Synthase Gene Expression in Arabidopsis, 2347–2357
Cuticular waxes
Y. Xia, B. J. Nikolau, and P. S. Schnable: Cloning and Characterization of *CER2*, an Arabidopsis Gene That Affects Cuticular Wax Accumulation, 1291–1304
Cyanogenic glycosides
A. E. Osbourn: Preformed Antimicrobial Compounds and Plant Defense against Fungal Attack, 1821–1831
Cyclases
F. X. Cunningham, Jr., B. Pogson, Z. Sun, K. A. McDonald, D. DellaPenna, and E. Gantt: Functional Analysis of the β and ε Lycopene Cyclase Enzymes of Arabidopsis Reveals a Mechanism for Control of Cyclic Carotenoid Formation, 1613–1626
B. Pogson, K. A. McDonald, M. Truong, G. Britton, and D. DellaPenna: Arabidopsis Carotenoid Mutants Demonstrate That Lutein Is Not Essential for Photosynthesis in Higher Plants, 1627–1639
C. B. Taylor: Control of Cyclic Carotenoid Biosynthesis: No Lutein, No Problem! (In This Issue), 1447–1450
Cytochrome P450
G. J. Bishop, K. Harrison, and J. D. G. Jones: The Tomato *Dwarf* Gene Isolated by Heterologous Transposon Tagging Encodes the First Member of a New Cytochrome P450 Family, 959–969
Cytosol
H. Mireau, D. Lancelin, and I. D. Small: The Same Arabidopsis Gene Encodes Both Cytosolic and Mitochondrial Alanyl–tRNA Synthetases, 1027–1039

D

Debranching enzyme
G. Mouille, M.-L. Maddelein, N. Libessart, P. Talaga, A. Decq, B. Delrue, and S. Ball: Preamylopectin Processing: A Mandatory Step for Starch Biosynthesis in Plants, 1353–1366
***deetiolated* mutants**
R. Mayer, D. Raventos, and N.-H. Chua: *det1*, *cop1*, and *cop9* Mutations Cause Inappropriate Expression of Several Gene Sets, 1951–1959
J. M. Staub, N. Wei, and X.-W. Deng: Evidence for FUS6 as a Component of the Nuclear-Localized COP9 Complex in Arabidopsis, 2047–2056
***defenseless1* mutant**
G. A. Howe, J. Lightner, J. Browse, and C. A. Ryan: An Octadecanoid Pathway Mutant (JL5) of Tomato Is Compromised in Signaling for Defense against Insect Attack, 2067–2077
Defensin gene
I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323
2,6-Dichloroisonicotinic acid
J. A. Ryals, U. H. Neuenschwander, M. G. Willits, A. Molina, H.-Y. Steiner, and M. D. Hunt: Systemic Acquired Resistance, 1809–1819
Digitaria sanguinalis
N. Giglioli-Guivarc'h, J.-N. Pierre, S. Brown, R. Chollet, J. Vidal, and P. Gadal: The Light-Dependent Transduction Pathway Controlling the Regulatory Phosphorylation of C4 Phospho*enol*pyruvate Carboxylase in Protoplasts from *Digitaria sanguinalis*, 573–586
Dimerization
H. Huang, M. Tudor, T. Su, Y. Zhang, Y. Hu, and H. Ma: DNA Binding Properties of Two Arabidopsis MADS Domain Proteins: Binding Consensus and Dimer Formation, 81–94
D. Wagner, M. Koloszvari, and P. H. Quail: Two Small Spatially Distinct Regions of Phytochrome B Are Required for Efficient Signaling Rates, 859–871
Dinoflagellates
J. D. Palmer: Rubisco Surprises in Dinoflagellates (In This Issue), 343–345
R. Rowan, S. M. Whitney, A. Fowler, and D. Yellowlees: Rubisco in Marine Symbiotic Dinoflagellates: Form II Enzymes in Eukaryotic Oxygenic Phototrophs Encoded by a Nuclear Multigene Family, 539–553
Disease lesion mimics
G. Hu, T. E. Richter, S. H. Hulbert, and T. Pryor: Disease Lesion Mimicry Caused by Mutations in the Rust Resistance Gene *rp1*, 1367–1376
***Dissociation* element**
K. Wilson, D. Long, J. Swinburne, and G. Coupland: A *Dissociation* Insertion Causes a Semidominant Mutation That Increases Expression of *TINY*, an Arabidopsis Gene Related to *APETALA2*, 659–671
DNA binding
J. Degenhardt and E. M. Tobin: A DNA Binding Activity for One of Two Closely Defined Phytochrome Regulatory Elements in an *Lhcb* Promoter Is More Abundant in Etiolated Than in Green Plants, 31–41
H. Huang, M. Tudor, T. Su, Y. Zhang, Y. Hu, and H. Ma: DNA Binding Properties of Two Arabidopsis MADS Domain Proteins: Binding Consensus and Dimer Formation, 81–94
Y. Mizukami, H. Huang, M. Tudor, Y. Hu, and H. Ma: Functional Domains of the Floral Regulator AGAMOUS: Characterization of the DNA Binding Domain and Analysis of Dominant Negative Mutations, 831–845

M. Ni, K. Dehesh, J. M. Tepperman, and P. H. Quail: GT-2: In Vivo Transcriptional Activation Activity and Definition of Novel Twin DNA Binding Domains with Reciprocal Target Sequence Selectivity, 1041–1059

X. Niu, C. C. Adams, J. L. Workman, and M. J. Guiltinan: Binding of the Wheat Basic Leucine Zipper Protein EmBP-1 to Nucleosomal Binding Sites Is Modulated by Nucleosome Positioning, 1569–1587

DNA binding protein

I. Meier, T. Phelan, W. Gruissem, S. Spiker, and D. Schneider: MFP1, a Novel Plant Filament-like Protein with Affinity for Matrix Attachment Region DNA, 2105–2115

DNA cleavage

D. E. Ryerson and M. C. Heath: Cleavage of Nuclear DNA into Oligonucleosomal Fragments during Cell Death Induced by Fungal Infection or by Abiotic Treatments, 393–402

DNA laddering

D. E. Ryerson and M. C. Heath: Cleavage of Nuclear DNA into Oligonucleosomal Fragments during Cell Death Induced by Fungal Infection or by Abiotic Treatments, 393–402

DNA replication

D. J. Oldenburg and A. J. Bendich: Size and Structure of Replicating Mitochondrial DNA in Cultured Tobacco Cells, 447–461

DNA transport

J. Sheng and V. Citovsky: Agrobacterium–Plant Cell DNA Transport: Have Virulence Proteins, Will Travel, 1699–1710

***Dwarf* gene**

G. J. Bishop, K. Harrison, and J. D. G. Jones: The Tomato *Dwarf* Gene Isolated by Heterologous Transposon Tagging Encodes the First Member of a New Cytochrome P450 Family, 959–969

E

Early responsive to dehydration stress clones

T. Kiyosue, Y. Yoshiba, K. Yamaguchi-Shinozaki, and K. Shinozaki: A Nuclear Gene Encoding Mitochondrial Proline Dehydrogenase, an Enzyme Involved in Proline Metabolism, Is Upregulated by Proline but Downregulated by Dehydration in Arabidopsis, 1323–1335

ECERIFERUM2

Y. Xia, B. J. Nikolau, and P. S. Schnable: Cloning and Characterization of *CER2*, an Arabidopsis Gene That Affects Cuticular Wax Accumulation, 1291–1304

***EDS1* gene**

J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046

Elongation factor-1α

A. M. Clore, J. M. Dannenhoffer, and B. A. Larkins: EF-1α Is Associated with a Cytoskeletal Network Surrounding Protein Bodies in Maize Endosperm Cells, 2003–2014

EmBP-1

X. Niu, C. C. Adams, J. L. Workman, and M. J. Guiltinan: Binding of the Wheat Basic Leucine Zipper Protein EmBP-1 to Nucleosomal Binding Sites Is Modulated by Nucleosome Positioning, 1569–1587

Embryo sac development

B.-Q. Huang and W. F. Sheridan: Embryo Sac Development in the Maize *indeterminate gametophyte1* Mutant: Abnormal Nuclear Behavior and Defective Microtubule Organization, 1391–1407

Embryogenesis

D. A. Belostotsky and R. B. Meagher: A Pollen-, Ovule-, and Early Embryo-Specific Poly(A) Binding Protein from Arabidopsis Complements Essential Functions in Yeast, 1261–1275

F.-Y. Bouget, S. Gerttula, S. L. Shaw, and R. S. Quatrano: Localization of Actin mRNA during the Establishment of Cell Polarity and Early Cell Divisions in *Fucus* Embryos, 189–201

M.-S. Chern, A. J. Bobb, and M. M. Bustos: The Regulator of *MAT2* (ROM2) Protein Binds to Early Maturation Promoters and Represses PvALF-Activated Transcription, 305–321

P. Lu, R. Porat, J. A. Nadeau, and S. D. O'Neill: Identification of a Meristem L1 Layer-Specific Gene in Arabidopsis That Is Expressed during Embryonic Pattern Formation and Defines a New Class of Homeobox Genes, 2155–2168

S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989

C. W. Vroemen, S. Langeveld, U. Mayer, G. Ripper, G. Jürgens, A. Van Kammen, and S. C. De Vries: Pattern Formation in the Arabidopsis Embryo Revealed by Position-Specific Lipid Transfer Protein Gene Expression, 783–791

Endoribonuclease

J. Yang, G. Schuster, and D. B. Stern: CSP41, a Sequence-Specific Chloroplast mRNA Binding Protein, Is an Endoribonuclease, 1409–1420

Endosperm

A. M. Clore, J. M. Dannenhoffer, and B. A. Larkins: EF-1α Is Associated with a Cytoskeletal Network Surrounding Protein Bodies in Maize Endosperm Cells, 2003–2014

C. E. Coleman, E. M. Herman, K. Takasaki, and B. A. Larkins: The Maize γ-Zein Sequesters α-Zein and Stabilizes Its Accumulation in Protein Bodies of Transgenic Tobacco Endosperm, 2335–2345

Epidermis development

J. D. Masucci and J. W. Schiefelbein: Hormones Act Downstream of *TTG* and *GL2* to Promote Root Hair Outgrowth during Epidermis Development in the Arabidopsis Root, 1505–1517

ERECTA

K. U. Torii, N. Mitsukawa, T. Oosumi, Y. Matsuura, R. Yokoyama, R. F. Whittier, and Y. Komeda: The Arabidopsis *ERECTA* Gene Encodes a Putative Receptor Protein Kinase with Extracellular Leucine-Rich Repeats, 735–746

Erysiphe graminis* f sp *hordei

A. Freialdenhoven, C. Peterhänsel, J. Kurth, F. Kreuzaler, and P. Schulze-Lefert: Identification of Genes Required for the Function of Non-Race-Specific *mlo* Resistance to Powdery Mildew in Barley, 5–14

Escherichia coli

F. J. Quintero, B. Garciadeblás, and A. Rodríguez-Navarro: The *SAL1* Gene of Arabidopsis, Encoding an Enzyme with 3′(2′), 5′-Bisphosphate Nucleotidase and Inositol Polyphosphate 1-Phosphatase Activities, Increases Salt Tolerance in Yeast, 529–537

C. B. Taylor: Control of Cyclic Carotenoid Biosynthesis: No Lutein, No Problem! (In This Issue), 1447–1450

Ethylene

J. D. Masucci and J. W. Schiefelbein: Hormones Act Downstream of *TTG* and *GL2* to Promote Root Hair Outgrowth during Epidermis Development in the Arabidopsis Root, 1505–1517

I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323

G. Sessa, V. Raz, S. Savaldi, and R. Fluhr: PK12, a Plant Dual-Specificity Protein Kinase of the LAMMER Family, Is Regulated by the Hormone Ethylene, 2223–2234

Euglena

C. Sulli and S. D. Schwartzbach: A Soluble Protein Is Imported into Euglena Chloroplasts as a Membrane-Bound Precursor, 43–53

Expansins

N. Carpita, M. McCann, and L. R. Griffing: The Plant Extracellular Matrix: News from the Cell's Frontier (Meeting Report), 1451–1463

Extensin gene

J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490

Extracellular matrix

N. Carpita, M. McCann, and L. R. Griffing: The Plant Extracellular Matrix: News from the Cell's Frontier (Meeting Report), 1451–1463

F

14-3-3 Gene

C. J. Daugherty, M. F. Rooney, P. W. Miller, and R. J. Ferl: Molecular Organization and Tissue-Specific Expression of an Arabidopsis 14-3-3 Gene, 1239–1248

Fabaceae

S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898

Farnesylation
D. Qian, D. Zhou, R. Ju, C. L. Cramer, and Z. Yang: Protein Farnesyltransferase in Plants: Molecular Characterization and Involvement in Cell Cycle Control, 2381–2394
C. B. Taylor: Farnesylation—A Sticky Business (In This Issue), 2151–2153
Farnesyltransferase
D. Qian, D. Zhou, R. Ju, C. L. Cramer, and Z. Yang: Protein Farnesyltransferase in Plants: Molecular Characterization and Involvement in Cell Cycle Control, 2381–2394
C. B. Taylor: Farnesylation—A Sticky Business (In This Issue), 2151–2153
Fatty acid elongation
M. W. Lassner, K. Lardizabal, and J. G. Metz: A Jojoba β-Ketoacyl–CoA Synthase cDNA Complements the Canola Fatty Acid Elongation Mutation in Transgenic Plants, 281–292
Fava bean
J. Li and S. M. Assmann: An Abscisic Acid–Activated and Calcium-Independent Protein Kinase from Guard Cells of Fava Bean, 2359–2368
Female gametophyte development
K. M. Klucher, H. Chow, L. Reiser, and R. L. Fischer: The *AINTEGUMENTA* Gene of Arabidopsis Required for Ovule and Female Gametophyte Development Is Related to the Floral Homeotic Gene *APETALA2*, 137–153
J. A. Nadeau, X. S. Zhang, J. Li, and S. D. O'Neill: Ovule Development: Identification of Stage-Specific and Tissue-Specific cDNAs, 213–239
Fertilization
L. Shi, T. Zhu, H. L. Mogensen, and P. Keim: Sperm Identification in Maize by Fluorescence in Situ Hybridization, 815–821
Flavonoid biosynthesis
I. E. Burbulis, M. Iacobucci, and B. W. Shirley: A Null Mutation in the First Enzyme of Flavonoid Biosynthesis Does Not Affect Male Fertility in Arabidopsis, 1013–1025
E. Moyano, J. F. Martínez-Garcia, and C. Martin: Apparent Redundancy in *myb* Gene Function Provides Gearing for the Control of Flavonoid Biosynthesis in Antirrhinum Flowers, 1519–1532
Floral color
S. Chopra, P. Athma, and T. Peterson: Alleles of the Maize *P* Gene with Distinct Tissue Specificities Encode Myb-Homologous Proteins with C-Terminal Replacements, 1149–1158
Floral development
R. C. Elliott, A. S. Betzner, E. Huttner, M. P. Oakes, W. Q. J. Tucker, D. Gerentes, P. Perez, and D. R. Smyth: *AINTEGUMENTA*, an *APETALA2*-like Gene of Arabidopsis with Pleiotropic Roles in Ovule Development and Floral Organ Growth, 155–168
E. Moyano, J. F. Martínez-Garcia, and C. Martin: Apparent Redundancy in *myb* Gene Function Provides Gearing for the Control of Flavonoid Biosynthesis in Antirrhinum Flowers, 1519–1532
B. Überlacker, B. Klinge, and W. Werr: Ectopic Expression of the Maize Homeobox Genes *ZmHox1a* or *ZmHox1b* Causes Pleiotropic Alterations in the Vegetative and Floral Development of Transgenic Tobacco, 349–362
Floral scent
N. Dudareva, L. Cseke, V. M. Blanc, and E. Pichersky: Evolution of Floral Scent in *Clarkia*: Novel Patterns of *S*-Linalool Synthase Gene Expression in the *C. breweri* Flower, 1137–1148
Fluorescence in situ hybridization
L. Shi, T. Zhu, H. L. Mogensen, and P. Keim: Sperm Identification in Maize by Fluorescence in Situ Hybridization, 815–821
R. ten Hoopen, T. P. Robbins, P. F. Fransz, B. M. Montijn, O. Oud, A. G. M. Gerats, and N. Nanninga: Localization of T-DNA Insertions in Petunia by Fluorescence in Situ Hybridization: Physical Evidence for Suppression of Recombination, 823–830
Form II enzymes
J. D. Palmer: Rubisco Surprises in Dinoflagellates (In This Issue), 343–345
R. Rowan, S. M. Whitney, A. Fowler, and D. Yellowlees: Rubisco in Marine Symbiotic Dinoflagellates: Form II Enzymes in Eukaryotic Oxygenic Phototrophs Encoded by a Nuclear Multigene Family, 539–553
Frankia
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913
Fucus
F.-Y. Bouget, S. Gerttula, S. L. Shaw, and R. S. Quatrano: Localization of Actin mRNA during the Establishment of Cell Polarity and Early Cell Divisions in *Fucus* Embryos, 189–201
K. Schumaker: Spikes and Waves: Calcium-Mediated Signaling in Tip-Growing Cells (In This Issue), 1915–1916
A. R. Taylor, N. F. H. Manison, C. Fernandez, J. Wood, and C. Brownlee: Spatial Organization of Calcium Signaling Involved in Cell Volume Control in the Fucus Rhizoid, 2015–2031
Funding process
R. B. Goldberg: To Grant or Not (Commentary), 346–347
Fusarium oxysporum* f sp *raphani
C. M. J. Pieterse, S. C. M. van Wees, E. Hoffland, J. A. van Pelt, and L. C. van Loon: Systemic Resistance in Arabidopsis Induced by Biocontrol Bacteria Is Independent of Salicylic Acid Accumulation and Pathogenesis-Related Gene Expression, 1225–1237
***fusca* mutants**
J. M. Staub, N. Wei, and X.-W. Deng: Evidence for FUS6 as a Component of the Nuclear-Localized COP9 Complex in Arabidopsis, 2047–2056

G

G proteins
D. L. Nuss: Using Hypoviruses to Probe and Perturb Signal Transduction Processes Underlying Fungal Pathogenesis, 1845–1853
Galacturonides
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276
G-box factor 3
G. Lu, A.-L. Paul, D. R. McCarty, and R. J. Ferl: Transcription Factor Veracity: Is GBF3 Responsible for ABA-Regulated Expression of Arabidopsis *Adh*?, 847–857
GDP dissociation inhibitor
T. Ueda, N. Matsuda, T. Anai, H. Tsukaya, H. Uchimiya, and A. Nakano: An Arabidopsis Gene Isolated by a Novel Method for Detecting Genetic Interaction in Yeast Encodes the GDP Dissociation Inhibitor of Ara4 GTPase, 2079–2091
Gene conversion
M. Chiurazzi, A. Ray, J.-F. Viret, R. Perera, X.-H. Wang, A. M. Lloyd, and E. R. Signer: Enhancement of Somatic Intrachromosomal Homologous Recombination in Arabidopsis by the HO Endonuclease, 2057–2066
Gene name register
S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933
Gene silencing
G. C. Allen, G. Hall, Jr., S. Michalowski, W. Newman, S. Spiker, A. K. Weissinger, and W. F. Thompson: High-Level Transgene Expression in Plant Cells: Effects of a Strong Scaffold Attachment Region from Tobacco, 899–913
D. C. Baulcombe: Mechanisms of Pathogen-Derived Resistance to Viruses in Transgenic Plants, 1833–1844
J. J. English, E. Mueller, and D. C. Baulcombe: Suppression of Virus Accumulation in Transgenic Plants Exhibiting Silencing of Nuclear Genes, 179–188
Ľ. Mlynárová, L. C. P. Keizer, W. J. Stiekema, and J.-P. Nap: Approaching the Lower Limits of Transgene Variability, 1589–1599
T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294
J. J. Todd and L. O. Vodkin: Duplications That Suppress and Deletions That Restore Expression from a Chalcone Synthase Multigene Family, 687–699
General regulatory factor1–G-box factor 14-3-3 homolog isoform chi
C. J. Daugherty, M. F. Rooney, P. W. Miller, and R. J. Ferl: Molecular Organization and Tissue-Specific Expression of an Arabidopsis 14-3-3 Gene, 1239–1248

Generative cell
Y. Lin, Y. Wang, J.-k. Zhu, and Z. Yang: Localization of a Rho GTPase Implies a Role in Tip Growth and Movement of the Generative Cell in Pollen Tubes, 293–303
Genetic transformation
A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771
Genome structure
S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933
Gibberellic acid
S. P. Penson, R. C. Schuurink, A. Fath, F. Gubler, J. V. Jacobsen, and R. L. Jones: cGMP Is Required for Gibberellic Acid–Induced Gene Expression in Barley Aleurone, 2325–2333
S. J. Swanson and R. L. Jones: Gibberellic Acid Induces Vacuolar Acidification in Barley Aleurone, 2211–2221
Gibberellin
S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209
A. Kuo, S. Cappelluti, M. Cervantes-Cervantes, M. Rodriguez, and D. S. Bush: Okadaic Acid, a Protein Phosphatase Inhibitor, Blocks Calcium Changes, Gene Expression, and Cell Death Induced by Gibberellin in Wheat Aleurone Cells, 259–269
β-1,3-Glucanases
R. S. Beffa, R.-M. Hofer, M. Thomas, and F. Meins, Jr.: Decreased Susceptibility to Viral Disease of β-1,3-Glucanase–Deficient Plants Generated by Antisense Transformation, 1001–1011
Glucosinolates
A. E. Osbourn: Preformed Antimicrobial Compounds and Plant Defense against Fungal Attack, 1821–1831
β-Glucuronidase gene
M. Chiurazzi, A. Ray, J.-F. Viret, R. Perera, X.-H. Wang, A. M. Lloyd, and E. R. Signer: Enhancement of Somatic Intrachromosomal Homologous Recombination in Arabidopsis by the HO Endonuclease, 2057–2066
Ľ. Mlynárová, L. C. P. Keizer, W. J. Stiekema, and J.-P. Nap: Approaching the Lower Limits of Transgene Variability, 1589–1599
Glutamate 1-semialdehyde aminotransferase
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
Glutathione
S. Petrucco, A. Bolchi, C. Foroni, R. Percudani, G. L. Rossi, and S. Ottonello: A Maize Gene Encoding an NADPH Binding Enzyme Highly Homologous to Isoflavone Reductases Is Activated in Response to Sulfur Starvation, 69–80
Glycochaperones
N. Carpita, M. McCann, and L. R. Griffing: The Plant Extracellular Matrix: News from the Cell's Frontier (Meeting Report), 1451–1463
Glyoxysomal citrate synthase
A. Kato, M. Hayashi, M. Kondo, and M. Nishimura: Targeting and Processing of a Chimeric Protein with the N-Terminal Presequence of the Precursor to Glyoxysomal Citrate Synthase, 1601–1611
Grants
R. B. Goldberg: To Grant or Not (Commentary), 346–347
Growth orientation
R. Malhó and A. J. Trewavas: Localized Apical Increases of Cytosolic Free Calcium Control Pollen Tube Orientation, 1935–1949
***gsa* gene**
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
GT-2
M. Ni, K. Dehesh, J. M. Tepperman, and P. H. Quail: GT-2: In Vivo Transcriptional Activation Activity and Definition of Novel Twin DNA Binding Domains with Reciprocal Target Sequence Selectivity, 1041–1059
GTPases
Y. Lin, Y. Wang, J.-k. Zhu, and Z. Yang: Localization of a Rho GTPase Implies a Role in Tip Growth and Movement of the Generative Cell in Pollen Tubes, 293–303
T. Ueda, N. Matsuda, T. Anai, H. Tsukaya, H. Uchimiya, and A. Nakano: An Arabidopsis Gene Isolated by a Novel Method for Detecting Genetic Interaction in Yeast Encodes the GDP Dissociation Inhibitor of Ara4 GTPase, 2079–2091
Guard cells
J. Li and S. M. Assmann: An Abscisic Acid–Activated and Calcium-Independent Protein Kinase from Guard Cells of Fava Bean, 2359–2368

H

Harpins
J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698
R. W. Innes: Plant–Pathogen Interactions: Unexpected Findings on Signal Input and Output (In This Issue), 133–136
H^+-ATPase
T. Xing, V. J. Higgins, and E. Blumwald: Regulation of Plant Defense Response to Fungal Pathogens: Two Types of Protein Kinases in the Reversible Phosphorylation of the Host Plasma Membrane H^+-ATPase, 555–564
HC-toxin
J.-H. Ahn and J. D. Walton: Chromosomal Organization of *TOX2*, a Complex Locus Controlling Host-Selective Toxin Biosynthesis in *Cochliobolus carbonum*, 887–897
Heme
J. L. Weller, M. J. Terry, C. Rameau, J. B. Reid, and R. E. Kendrick: The Phytochrome-Deficient *pcd1* Mutant of Pea Is Unable to Convert Heme to Biliverdin IXα, 55–67
Heteroderidae
V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745
Hexose
K. Herbers, P. Meuwly, W. B. Frommer, J.-P. Métraux, and U. Sonnewald: Systemic Acquired Resistance Mediated by the Ectopic Expression of Invertase: Possible Hexose Sensing in the Secretory Pathway, 793–803
High-chlorophyll fluorescence photosynthesis mutant
J. Meurer, A. Berger, and P. Westhoff: A Nuclear Mutant of Arabidopsis with Impaired Stability on Distinct Transcripts of the Plastid *psbB*, *psbD/C*, *ndhH*, and *ndhC* Operons, 1193–1207
HO endonuclease
M. Chiurazzi, A. Ray, J.-F. Viret, R. Perera, X.-H. Wang, A. M. Lloyd, and E. R. Signer: Enhancement of Somatic Intrachromosomal Homologous Recombination in Arabidopsis by the HO Endonuclease, 2057–2066
Homeobox genes
P. Lu, R. Porat, J. A. Nadeau, and S. D. O'Neill: Identification of a Meristem L1 Layer-Specific Gene in Arabidopsis That Is Expressed during Embryonic Pattern Formation and Defines a New Class of Homeobox Genes, 2155–2168
B. Überlacker, B. Klinge, and W. Werr: Ectopic Expression of the Maize Homeobox Genes *ZmHox1a* or *ZmHox1b* Causes Pleiotropic Alterations in the Vegetative and Floral Development of Transgenic Tobacco, 349–362
Host specificity
I. R. Crute and D. A. C. Pink: Genetics and Utilization of Pathogen Resistance in Plants, 1747–1755
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898
J. D. Walton: Host-Selective Toxins: Agents of Compatibility, 1723–1733
Host-selective toxins
J. D. Walton: Host-Selective Toxins: Agents of Compatibility, 1723–1733
***hrp* genes**
J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698
S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105
C. B. Taylor: Inside Avirulence (In This Issue), 1091–1093

Hydrophobin
N. J. Talbot, M. J. Kershaw, G. E. Wakley, O. M. H. de Vries, J. G. H. Wessels, and J. E. Hamer: *MPG1* Encodes a Fungal Hydrophobin Involved in Surface Interactions during Infection-Related Development of *Magnaporthe grisea*, 985–999
Hydroxyproline-rich glycoprotein
J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490
***hy4-2.23N* mutant**
G. Fuglevand, J. A. Jackson, and G. I. Jenkins: UV-B, UV-A, and Blue Light Signal Transduction Pathways Interact Synergistically to Regulate Chalcone Synthase Gene Expression in Arabidopsis, 2347–2357
Hypersensitive response
J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698
A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771
J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807
S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105
K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791
R. Mittler, V. Shulaev, M. Seskar, and E. Lam: Inhibition of Programmed Cell Death in Tobacco Plants during a Pathogen-Induced Hypersensitive Response at Low Oxygen Pressure, 1991–2001
D. E. Ryerson and M. C. Heath: Cleavage of Nuclear DNA into Oligonucleosomal Fragments during Cell Death Induced by Fungal Infection or by Abiotic Treatments, 393–402
Z. F. Taraporewala and J. N. Culver: Identification of an Elicitor Active Site within the Three-Dimensional Structure of the Tobacco Mosaic Tobamovirus Coat Protein, 169–178
C. B. Taylor: Inside Avirulence (In This Issue), 1091–1093
Hypoviruses
D. L. Nuss: Using Hypoviruses to Probe and Perturb Signal Transduction Processes Underlying Fungal Pathogenesis, 1845–1853
Hypoxia
A. Kuo, S. Cappelluti, M. Cervantes-Cervantes, M. Rodriguez, and D. S. Bush: Okadaic Acid, a Protein Phosphatase Inhibitor, Blocks Calcium Changes, Gene Expression, and Cell Death Induced by Gibberellin in Wheat Aleurone Cells, 259–269

I

***indeterminate gametophyte1* gene**
B.-Q. Huang and W. F. Sheridan: Embryo Sac Development in the Maize *indeterminate gametophyte1* Mutant: Abnormal Nuclear Behavior and Defective Microtubule Organization, 1391–1407
Induced systemic resistance
C. M. J. Pieterse, S. C. M. van Wees, E. Hoffland, J. A. van Pelt, and L. C. van Loon: Systemic Resistance in Arabidopsis Induced by Biocontrol Bacteria Is Independent of Salicylic Acid Accumulation and Pathogenesis-Related Gene Expression, 1225–1237
Infection routes
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913
Inhibitor locus
J. J. Todd and L. O. Vodkin: Duplications That Suppress and Deletions That Restore Expression from a Chalcone Synthase Multigene Family, 687–699
Inositol polyphosphate 1-phosphatase
F. J. Quintero, B. Garciadeblás, and A. Rodríguez-Navarro: The *SAL1* Gene of Arabidopsis, Encoding an Enzyme with 3′(2′), 5′-Bisphosphate Nucleotidase and Inositol Polyphosphate 1-Phosphatase Activities, Increases Salt Tolerance in Yeast, 529–537
Inositol 1,4,5-trisphosphate
V. E. Franklin-Tong, B. K. Drøbak, A. C. Allan, P. A. C. Watkins, and A. J. Trewavas: Growth of Pollen Tubes of *Papaver rhoeas* Is Regulated by a Slow-Moving Calcium Wave Propagated by Inositol 1,4,5-Trisphosphate, 1305–1321
Integral membrane protein
C. Sulli and S. D. Schwartzbach: A Soluble Protein Is Imported into Euglena Chloroplasts as a Membrane-Bound Precursor, 43–53
***intensifier1* gene**
F. A. Burr, B. Burr, B. E. Scheffler, M. Blewitt, U. Wienand, and E. C. Matz: The Maize Repressor-like Gene *intensifier1* Shares Homology with the *r1/b1* Multigene Family of Transcription Factors and Exhibits Missplicing, 1249–1259
Interspecific incompatibility
J. Murfett, T. J. Strabala, D. M. Zurek, B. Mou, B. Beecher, and B. A. McClure: *S* RNase and Interspecific Pollen Rejection in the Genus *Nicotiana*: Multiple Pollen-Rejection Pathways Contribute to Unilateral Incompatibility between Self-Incompatible and Self-Compatible Species, 943–958
C. B. Taylor: More Arresting Developments: *S* RNases and Interspecific Incompatibility (In This Issue), 939–941
Invertase
W.-H. Cheng, E. W. Taliercio, and P. S. Chourey: The *Miniature1* Seed Locus of Maize Encodes a Cell Wall Invertase Required for Normal Development of Endosperm and Maternal Cells in the Pedicel, 971–983
K. Herbers, P. Meuwly, W. B. Frommer, J.-P. Métraux, and U. Sonnewald: Systemic Acquired Resistance Mediated by the Ectopic Expression of Invertase: Possible Hexose Sensing in the Secretory Pathway, 793–803
Invertase genes
J. Xu, W. T. Avigne, D. R. McCarty, and K. E. Koch: A Similar Dichotomy of Sugar Modulation and Developmental Expression Affects Both Paths of Sucrose Metabolism: Evidence from a Maize Invertase Gene Family, 1209–1220
Iron competition
J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869
Isoflavone reductases
S. Petrucco, A. Bolchi, C. Foroni, R. Percudani, G. L. Rossi, and S. Ottonello: A Maize Gene Encoding an NADPH Binding Enzyme Highly Homologous to Isoflavone Reductases Is Activated in Response to Sulfur Starvation, 69–80

J

Jasmonic acid
I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323
Jojoba
M. W. Lassner, K. Lardizabal, and J. G. Metz: A Jojoba β-Ketoacyl–CoA Synthase cDNA Complements the Canola Fatty Acid Elongation Mutation in Transgenic Plants, 281–292

K

K^+ channels
H. Tang, A. C. Vasconcelos, and G. A. Berkowitz: Physical Association of KAB1 with Plant K^+ Channel α Subunits, 1545–1553
KAB1
H. Tang, A. C. Vasconcelos, and G. A. Berkowitz: Physical Association of KAB1 with Plant K^+ Channel α Subunits, 1545–1553
KAT1
H. Tang, A. C. Vasconcelos, and G. A. Berkowitz: Physical Association of KAB1 with Plant K^+ Channel α Subunits, 1545–1553
β-Ketoacyl–coenzyme A synthase
M. W. Lassner, K. Lardizabal, and J. G. Metz: A Jojoba β-Ketoacyl–CoA Synthase cDNA Complements the Canola Fatty Acid Elongation Mutation in Transgenic Plants, 281–292
Kinesin-like protein
B. Liu, R. J. Cyr, and B. A. Palevitz: A Kinesin-like Protein, KatAp, in the Cells of Arabidopsis and Other Plants, 119–132

KNAT1
G. Chuck, C. Lincoln, and S. Hake: *KNAT1* Induces Lobed Leaves with Ectopic Meristems When Overexpressed in Arabidopsis, 1277–1289
Kranz anatomy
C. B. Taylor: C_3 or C_4? Maize Mutations and the Elaboration of Kranz Anatomy (In This Issue), 761–762
kurkku
D. F. Mandoli and B. E. Hunt: *kurkku*, a Phenotype of *Acetabularia acetabulum* That Is Arrested in Vegetative Growth, Can Be Rescued with Wild-Type Cytoplasm, 323–332

L

LAMMER kinase
G. Sessa, V. Raz, S. Savaldi, and R. Fluhr: PK12, a Plant Dual-Specificity Protein Kinase of the LAMMER Family, Is Regulated by the Hormone Ethylene, 2223–2234
Late embryogenesis abundant genes
Q. Shen, P. Zhang, and T.-H. D. Ho: Modular Nature of Abscisic Acid (ABA) Response Complexes: Composite Promoter Units That Are Necessary and Sufficient for ABA Induction of Gene Expression in Barley, 1107–1119
Leaf development
G. Chuck, C. Lincoln, and S. Hake: *KNAT1* Induces Lobed Leaves with Ectopic Meristems When Overexpressed in Arabidopsis, 1277–1289
R. Roth, L. N. Hall, T. P. Brutnell, and J. A. Langdale: *bundle sheath defective2*, a Mutation That Disrupts the Coordinated Development of Bundle Sheath and Mesophyll Cells in the Maize Leaf, 915–927
C. B. Taylor: C_3 or C_4? Maize Mutations and the Elaboration of Kranz Anatomy (In This Issue), 761–762
***Leaf permease1* gene**
N. P. Schultes, T. P. Brutnell, A. Allen, S. L. Dellaporta, T. Nelson, and J. Chen: *Leaf permease1* Gene of Maize Is Required for Chloroplast Development, 463–475
Lemna gibba
J. Degenhardt and E. M. Tobin: A DNA Binding Activity for One of Two Closely Defined Phytochrome Regulatory Elements in an *Lhcb* Promoter Is More Abundant in Etiolated Than in Green Plants, 31–41
Light induction
G. Fuglevand, J. A. Jackson, and G. I. Jenkins: UV-B, UV-A, and Blue Light Signal Transduction Pathways Interact Synergistically to Regulate Chalcone Synthase Gene Expression in Arabidopsis, 2347–2357
C.-s. Im, G. L. Matters, and S. I. Beale: Calcium and Calmodulin Are Involved in Blue Light Induction of the *gsa* Gene for an Early Chlorophyll Biosynthetic Step in Chlamydomonas, 2245–2253
Light-harvesting chlorophyll *a*/*b* proteins of photosystem II genes
J. Degenhardt and E. M. Tobin: A DNA Binding Activity for One of Two Closely Defined Phytochrome Regulatory Elements in an *Lhcb* Promoter Is More Abundant in Etiolated Than in Green Plants, 31–41
Light-regulated genes
R. Mayer, D. Raventos, and N.-H. Chua: *det1*, *cop1*, and *cop9* Mutations Cause Inappropriate Expression of Several Gene Sets, 1951–1959
Light-responsive *cis* element
C.-Y. Kao, S. M. Cocciolone, I. K. Vasil, and D. R. McCarty: Localization and Interaction of the *cis*-Acting Elements for Abscisic Acid, VIVIPAROUS1, and Light Activation of the *C1* Gene of Maize, 1171–1179
***S*-Linalool synthase**
N. Dudareva, L. Cseke, V. M. Blanc, and E. Pichersky: Evolution of Floral Scent in *Clarkia*: Novel Patterns of *S*-Linalool Synthase Gene Expression in the *C. breweri* Flower, 1137–1148
Linolenic acid
M. McConn and J. Browse: The Critical Requirement for Linolenic Acid Is Pollen Development, Not Photosynthesis, in an Arabidopsis Mutant, 403–416
***Lis* gene**
N. Dudareva, L. Cseke, V. M. Blanc, and E. Pichersky: Evolution of Floral Scent in *Clarkia*: Novel Patterns of *S*-Linalool Synthase Gene Expression in the *C. breweri* Flower, 1137–1148
Low-affinity transport system
N.-C. Huang, C.-S. Chiang, N. M. Crawford, and Y.-F. Tsay: *CHL1* Encodes a Component of the Low-Affinity Nitrate Uptake System in Arabidopsis and Shows Cell Type–Specific Expression in Roots, 2183–2191
Low-temperature signaling
H. Knight, A. J. Trewavas, and M. R. Knight: Cold Calcium Signaling in Arabidopsis Involves Two Cellular Pools and a Change in Calcium Signature after Acclimation, 489–503
***lut* mutants**
B. Pogson, K. A. McDonald, M. Truong, G. Britton, and D. DellaPenna: Arabidopsis Carotenoid Mutants Demonstrate That Lutein Is Not Essential for Photosynthesis in Higher Plants, 1627–1639
Lutein
B. Pogson, K. A. McDonald, M. Truong, G. Britton, and D. DellaPenna: Arabidopsis Carotenoid Mutants Demonstrate That Lutein Is Not Essential for Photosynthesis in Higher Plants, 1627–1639
C. B. Taylor: Control of Cyclic Carotenoid Biosynthesis: No Lutein, No Problem! (In This Issue), 1447–1450
Lycopene
F. X. Cunningham, Jr., B. Pogson, Z. Sun, K. A. McDonald, D. DellaPenna, and E. Gantt: Functional Analysis of the β and ε Lycopene Cyclase Enzymes of Arabidopsis Reveals a Mechanism for Control of Cyclic Carotenoid Formation, 1613–1626
C. B. Taylor: Control of Cyclic Carotenoid Biosynthesis: No Lutein, No Problem! (In This Issue), 1447–1450
***Lycopersicon* Ca^{2+}-ATPase**
N. Ferrol and A. B. Bennett: A Single Gene May Encode Differentially Localized Ca^{2+}-ATPases in Tomato, 1159–1169

M

MADS domain
Y. Mizukami, H. Huang, M. Tudor, Y. Hu, and H. Ma: Functional Domains of the Floral Regulator AGAMOUS: Characterization of the DNA Binding Domain and Analysis of Dominant Negative Mutations, 831–845
MADS domain proteins
H. Huang, M. Tudor, T. Su, Y. Zhang, Y. Hu, and H. Ma: DNA Binding Properties of Two Arabidopsis MADS Domain Proteins: Binding Consensus and Dimer Formation, 81–94
Magnaporthe grisea
G. Lau and J. E. Hamer: Regulatory Genes Controlling *MPG1* Expression and Pathogenicity in the Rice Blast Fungus *Magnaporthe grisea*, 771–781
N. J. Talbot, M. J. Kershaw, G. E. Wakley, O. M. H. de Vries, J. G. H. Wessels, and J. E. Hamer: *MPG1* Encodes a Fungal Hydrophobin Involved in Surface Interactions during Infection-Related Development of *Magnaporthe grisea*, 985–999
Maize
F. A. Burr, B. Burr, B. E. Scheffler, M. Blewitt, U. Wienand, and E. C. Matz: The Maize Repressor-like Gene *intensifier1* Shares Homology with the *r1/b1* Multigene Family of Transcription Factors and Exhibits Missplicing, 1249–1259
W.-H. Cheng, E. W. Taliercio, and P. S. Chourey: The *Miniature1* Seed Locus of Maize Encodes a Cell Wall Invertase Required for Normal Development of Endosperm and Maternal Cells in the Pedicel, 971–983
S. Chopra, P. Athma, and T. Peterson: Alleles of the Maize *P* Gene with Distinct Tissue Specificities Encode Myb-Homologous Proteins with C-Terminal Replacements, 1149–1158
A. M. Clore, J. M. Dannenhoffer, and B. A. Larkins: EF-1α Is Associated with a Cytoskeletal Network Surrounding Protein Bodies in Maize Endosperm Cells, 2003–2014
I. Frías, M. T. Caldeira, J. R. Pérez-Castiñeira, J. P. Navarro-Aviñó, F. A. Culiañez-Maciá, O. Kuppinger, H. Stransky, M. Pagés, A. Hager, and R. Serrano: A Major Isoform of the Maize Plasma Membrane H^+-ATPase: Characterization and Induction by Auxin in Coleoptiles, 1533–1544
G. Hu, T. E. Richter, S. H. Hulbert, and T. Pryor: Disease Lesion Mimicry Caused by Mutations in the Rust Resistance Gene *rp1*, 1367–1376
B.-Q. Huang and W. F. Sheridan: Embryo Sac Development in the Maize *indeterminate gametophyte1* Mutant: Abnormal Nuclear Behavior and Defective Microtubule Organization, 1391–1407

C.-Y. Kao, S. M. Cocciolone, I. K. Vasil, and D. R. McCarty: Localization and Interaction of the *cis*-Acting Elements for Abscisic Acid, VIVIPAROUS1, and Light Activation of the *C1* Gene of Maize, 1171–1179

X.-Q. Li, M. Zhang, and G. G. Brown: Cell-Specific Expression of Mitochondrial Transcripts in Maize Seedlings, 1961–1975

S. B. Narasimhulu, X.-b. Deng, R. Sarria, and S. B. Gelvin: Early Transcription of Agrobacterium T-DNA Genes in Tobacco and Maize, 873–886

S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989

S. Petrucco, A. Bolchi, C. Foroni, R. Percudani, G. L. Rossi, and S. Ottonello: A Maize Gene Encoding an NADPH Binding Enzyme Highly Homologous to Isoflavone Reductases Is Activated in Response to Sulfur Starvation, 69–80

R. Roth, L. N. Hall, T. P. Brutnell, and J. A. Langdale: *bundle sheath defective2*, a Mutation That Disrupts the Coordinated Development of Bundle Sheath and Mesophyll Cells in the Maize Leaf, 915–927

W. A. Russin, R. F. Evert, P. J. Vanderveer, T. D. Sharkey, and S. P. Briggs: Modification of a Specific Class of Plasmodesmata and Loss of Sucrose Export Ability in the *sucrose export defective1* Maize Mutant, 645–658

N. P. Schultes, T. P. Brutnell, A. Allen, S. L. Dellaporta, T. Nelson, and J. Chen: *Leaf permease1* Gene of Maize Is Required for Chloroplast Development, 463–475

L. Shi, T. Zhu, H. L. Mogensen, and P. Keim: Sperm Identification in Maize by Fluorescence in Situ Hybridization, 815–821

C. B. Taylor: C_3 or C_4? Maize Mutations and the Elaboration of Kranz Anatomy (In This Issue), 761–762

B. Überlacker, B. Klinge, and W. Werr: Ectopic Expression of the Maize Homeobox Genes *ZmHox1a* or *ZmHox1b* Causes Pleiotropic Alterations in the Vegetative and Floral Development of Transgenic Tobacco, 349–362

L. Wang, M. Heinlein, and R. Kunze: Methylation Pattern of *Activator* Transposase Binding Sites in Maize Endosperm, 747–758

J. Xu, W. T. Avigne, D. R. McCarty, and K. E. Koch: A Similar Dichotomy of Sugar Modulation and Developmental Expression Affects Both Paths of Sucrose Metabolism: Evidence from a Maize Invertase Gene Family, 1209–1220

G. Yang, M. S. Rose, B. G. Turgeon, and O. C. Yoder: A Polyketide Synthase Is Required for Fungal Virulence and Production of the Polyketide T-Toxin, 2139–2150

Maize homeobox genes

B. Überlacker, B. Klinge, and W. Werr: Ectopic Expression of the Maize Homeobox Genes *ZmHox1a* or *ZmHox1b* Causes Pleiotropic Alterations in the Vegetative and Floral Development of Transgenic Tobacco, 349–362

Major integral proteins

I. Johansson, C. Larsson, B. Ek, and P. Kjellbom: The Major Integral Proteins of Spinach Leaf Plasma Membranes Are Putative Aquaporins and Are Phosphorylated in Response to Ca^{2+} and Apoplastic Water Potential, 1181–1191

Male fertility

I. E. Burbulis, M. Iacobucci, and B. W. Shirley: A Null Mutation in the First Enzyme of Flavonoid Biosynthesis Does Not Affect Male Fertility in Arabidopsis, 1013–1025

Manduca sexta

G. A. Howe, J. Lightner, J. Browse, and C. A. Ryan: An Octadecanoid Pathway Mutant (JL5) of Tomato Is Compromised in Signaling for Defense against Insect Attack, 2067–2077

Map-based cloning

S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933

***MAT* gene**

M.-S. Chern, A. J. Bobb, and M. M. Bustos: The Regulator of *MAT2* (ROM2) Protein Binds to Early Maturation Promoters and Represses PvALF-Activated Transcription, 305–321

Maternal distorted leaf mutant

W. Sakamoto, H. Kondo, M. Murata, and F. Motoyoshi: Altered Mitochondrial Gene Expression in a Maternal Distorted Leaf Mutant of Arabidopsis Induced by *chloroplast mutator*, 1377–1390

Matrix attachment regions

I. Meier, T. Phelan, W. Gruissem, S. Spiker, and D. Schneider: MFP1, a Novel Plant Filament-like Protein with Affinity for Matrix Attachment Region DNA, 2105–2115

Matrix-associated regions

L. Mlynárová, L. C. P. Keizer, W. J. Stiekema, and J.-P. Nap: Approaching the Lower Limits of Transgene Variability, 1589–1599

Mercury

M. J. Daniels, F. Chaumont, T. E. Mirkov, and M. J. Chrispeels: Characterization of a New Vacuolar Membrane Aquaporin Sensitive to Mercury at a Unique Site, 587–599

Meristem patterning

P. Lu, R. Porat, J. A. Nadeau, and S. D. O'Neill: Identification of a Meristem L1 Layer-Specific Gene in Arabidopsis That Is Expressed during Embryonic Pattern Formation and Defines a New Class of Homeobox Genes, 2155–2168

Methylation

J. J. English, E. Mueller, and D. C. Baulcombe: Suppression of Virus Accumulation in Transgenic Plants Exhibiting Silencing of Nuclear Genes, 179–188

L. Wang, M. Heinlein, and R. Kunze: Methylation Pattern of *Activator* Transposase Binding Sites in Maize Endosperm, 747–758

MFP1 protein

I. Meier, T. Phelan, W. Gruissem, S. Spiker, and D. Schneider: MFP1, a Novel Plant Filament-like Protein with Affinity for Matrix Attachment Region DNA, 2105–2115

***MHA2* gene**

I. Frías, M. T. Caldeira, J. R. Pérez-Castiñeira, J. P. Navarro-Aviñó, F. A. Culiañez-Maciá, O. Kuppinger, H. Stransky, M. Pagés, A. Hager, and R. Serrano: A Major Isoform of the Maize Plasma Membrane H^+-ATPase: Characterization and Induction by Auxin in Coleoptiles, 1533–1544

Microtubule bundling

J. Marc, D. E. Sharkey, N. A. Durso, M. Zhang, and R. J. Cyr: Isolation of a 90-kD Microtubule-Associated Protein from Tobacco Membranes, 2127–2138

Microtubule-associated protein

J. Marc, D. E. Sharkey, N. A. Durso, M. Zhang, and R. J. Cyr: Isolation of a 90-kD Microtubule-Associated Protein from Tobacco Membranes, 2127–2138

Microtubules

A. M. Clore, J. M. Dannenhoffer, and B. A. Larkins: EF-1α Is Associated with a Cytoskeletal Network Surrounding Protein Bodies in Maize Endosperm Cells, 2003–2014

B.-Q. Huang and W. F. Sheridan: Embryo Sac Development in the Maize *indeterminate gametophyte1* Mutant: Abnormal Nuclear Behavior and Defective Microtubule Organization, 1391–1407

***Miniature1* gene**

W.-H. Cheng, E. W. Taliercio, and P. S. Chourey: The *Miniature1* Seed Locus of Maize Encodes a Cell Wall Invertase Required for Normal Development of Endosperm and Maternal Cells in the Pedicel, 971–983

Missplicing

F. A. Burr, B. Burr, B. E. Scheffler, M. Blewitt, U. Wienand, and E. C. Matz: The Maize Repressor-like Gene *intensifier1* Shares Homology with the *r1/b1* Multigene Family of Transcription Factors and Exhibits Missplicing, 1249–1259

Mitochondria

M. R. Hanson: Protein Products of Incompletely Edited Transcripts Are Detected in Plant Mitochondria (In This Issue), 1–3

X.-Q. Li, M. Zhang, and G. G. Brown: Cell-Specific Expression of Mitochondrial Transcripts in Maize Seedlings, 1961–1975

H. Mireau, D. Lancelin, and I. D. Small: The Same Arabidopsis Gene Encodes Both Cytosolic and Mitochondrial Alanyl–tRNA Synthetases, 1027–1039

C. G. Phreaner, M. A. Williams, and R. M. Mulligan: Incomplete Editing of *rps12* Transcripts Results in the Synthesis of Polymorphic Polypeptides in Plant Mitochondria, 107–117

Mitochondrial DNA

D. J. Oldenburg and A. J. Bendich: Size and Structure of Replicating Mitochondrial DNA in Cultured Tobacco Cells, 447–461

W. Sakamoto, H. Kondo, M. Murata, and F. Motoyoshi: Altered Mitochondrial Gene Expression in a Maternal Distorted Leaf Mutant of Arabidopsis Induced by *chloroplast mutator*, 1377–1390

Mitogen-activated protein kinase
M. L. W. Knetsch, M. Wang, B. E. Snaar-Jagalska, and S. Heimovaara-Dijkstra: Abscisic Acid Induces Mitogen-Activated Protein Kinase Activation in Barley Aleurone Protoplasts, 1061–1067

***Mlo* locus**
A. Freialdenhoven, C. Peterhänsel, J. Kurth, F. Kreuzaler, and P. Schulze-Lefert: Identification of Genes Required for the Function of Non-Race-Specific *mlo* Resistance to Powdery Mildew in Barley, 5–14

Morphogenesis
K. U. Torii, N. Mitsukawa, T. Oosumi, Y. Matsuura, R. Yokoyama, R. F. Whittier, and Y. Komeda: The Arabidopsis *ERECTA* Gene Encodes a Putative Receptor Protein Kinase with Extracellular Leucine-Rich Repeats, 735–746

Movement proteins
J. C. Carrington, K. D. Kasschau, S. K. Mahajan, and M. C. Schaad: Cell-to-Cell and Long-Distance Transport of Viruses in Plants, 1669–1681
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding, Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276
T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294

***MPG1* gene**
G. Lau and J. E. Hamer: Regulatory Genes Controlling *MPG1* Expression and Pathogenicity in the Rice Blast Fungus *Magnaporthe grisea*, 771–781
N. J. Talbot, M. J. Kershaw, G. E. Wakley, O. M. H. de Vries, J. G. H. Wessels, and J. E. Hamer: *MPG1* Encodes a Fungal Hydrophobin Involved in Surface Interactions during Infection-Related Development of *Magnaporthe grisea*, 985–999

Mung bean
D. J. Oldenburg and A. J. Bendich: Size and Structure of Replicating Mitochondrial DNA in Cultured Tobacco Cells, 447–461

***Mutable1* gene**
N. P. Schultes, T. P. Brutnell, A. Allen, S. L. Dellaporta, T. Nelson, and J. Chen: *Leaf permease1* Gene of Maize Is Required for Chloroplast Development, 463–475

***myb* gene (Antirrhinum)**
E. Moyano, J. F. Martínez-Garcia, and C. Martin: Apparent Redundancy in *myb* Gene Function Provides Gearing for the Control of Flavonoid Biosynthesis in Antirrhinum Flowers, 1519–1532

***Myb* gene (maize)**
S. Chopra, P. Athma, and T. Peterson: Alleles of the Maize *P* Gene with Distinct Tissue Specificities Encode Myb-Homologous Proteins with C-Terminal Replacements, 1149–1158

Mycorrhizas
V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883

N

NADPH binding enzyme
S. Petrucco, A. Bolchi, C. Foroni, R. Percudani, G. L. Rossi, and S. Ottonello: A Maize Gene Encoding an NADPH Binding Enzyme Highly Homologous to Isoflavone Reductases Is Activated in Response to Sulfur Starvation, 69–80

NADPH:protochlorophyllide oxidoreductase
S. Reinbothe, C. Reinbothe, N. Lebedev, and K. Apel: PORA and PORB, Two Light-Dependent Protochlorophyllide-Reducing Enzymes of Angiosperm Chlorophyll Biosynthesis, 763–769

Nematodes
V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745

***NIA* genes**
W. Su, S. C. Huber, and N. M. Crawford: Identification in Vitro of a Post-Translational Regulatory Site in the Hinge 1 Region of Arabidopsis Nitrate Reductase, 519–527

Nicotiana benthamiana
T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294

Nicotiana plumbaginifolia
H. Knight, A. J. Trewavas, and M. R. Knight: Cold Calcium Signaling in Arabidopsis Involves Two Cellular Pools and a Change in Calcium Signature after Acclimation, 489–503

***Nicotiana* spp**
R. S. Beffa, R.-M. Hofer, M. Thomas, and F. Meins, Jr.: Decreased Susceptibility to Viral Disease of β-1,3-Glucanase–Deficient Plants Generated by Antisense Transformation, 1001–1011
J. Murfett, T. J. Strabala, D. M. Zurek, B. Mou, B. Beecher, and B. A. McClure: *S* RNase and Interspecific Pollen Rejection in the Genus *Nicotiana*: Multiple Pollen-Rejection Pathways Contribute to Unilateral Incompatibility between Self-Incompatible and Self-Compatible Species, 943–958
C. B. Taylor: More Arresting Developments: *S* RNases and Interspecific Incompatibility (In This Issue), 939–941

Nicotiana sylvestris
Z. F. Taraporewala and J. N. Culver: Identification of an Elicitor Active Site within the Three-Dimensional Structure of the Tobacco Mosaic Tobamovirus Coat Protein, 169–178

Nitrate reductase
M. Bachmann, N. Shiraishi, W. H. Campbell, B.-C. Yoo, A. C. Harmon, and S. C. Huber: Identification of Ser-543 as the Major Regulatory Phosphorylation Site in Spinach Leaf Nitrate Reductase, 505–517
W. Su, S. C. Huber, and N. M. Crawford: Identification in Vitro of a Post-Translational Regulatory Site in the Hinge 1 Region of Arabidopsis Nitrate Reductase, 519–527

Nitrate uptake
N.-C. Huang, C.-S. Chiang, N. M. Crawford, and Y.-F. Tsay: *CHL1* Encodes a Component of the Low-Affinity Nitrate Uptake System in Arabidopsis and Shows Cell Type–Specific Expression in Roots, 2183–2191

Nitrogen regulation
G. Lau and J. E. Hamer: Regulatory Genes Controlling *MPG1* Expression and Pathogenicity in the Rice Blast Fungus *Magnaporthe grisea*, 771–781

Nodulation factors
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898

Nodulation mutants
V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913

Nodules
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913

Nodulins
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913

***NPR* genes**
G. Lau and J. E. Hamer: Regulatory Genes Controlling *MPG1* Expression and Pathogenicity in the Rice Blast Fungus *Magnaporthe grisea*, 771–781

Nsr1 protein
L. Bögre, C. Jonak, M. Mink, I. Meskiene, J. Traas, D. T. C. Ha, I. Swoboda, C. Plank, E. Wagner, E. Heberle-Bors, and H. Hirt: Developmental and Cell Cycle Regulation of Alfalfa *nucMs1*, a Plant Homolog of the Yeast Nsr1 and Mammalian Nucleolin, 417–428

Nuclear import
B. Guralnick, G. Thomsen, and V. Citovsky: Transport of DNA into the Nuclei of Xenopus Oocytes by a Modified VirE2 Protein of Agrobacterium, 363–373
G. R. Hicks, H. M. S. Smith, S. Lobreaux, and N. V. Raikhel: Nuclear Import in Permeabilized Protoplasts from Higher Plants Has Unique Features, 1337–1352
J. Sheng and V. Citovsky: Agrobacterium–Plant Cell DNA Transport: Have Virulence Proteins, Will Travel, 1699–1710

Nuclear localization
S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989
J. M. Staub, N. Wei, and X.-W. Deng: Evidence for FUS6 as a Component of the Nuclear-Localized COP9 Complex in Arabidopsis, 2047–2056

Nuclear localization signal
G. R. Hicks, H. M. S. Smith, S. Lobreaux, and N. V. Raikhel: Nuclear Import in Permeabilized Protoplasts from Higher Plants Has Unique Features, 1337–1352
Nuclear matrix
I. Meier, T. Phelan, W. Gruissem, S. Spiker, and D. Schneider: MFP1, a Novel Plant Filament-like Protein with Affinity for Matrix Attachment Region DNA, 2105–2115
Nuclear proteins
D. B. Szymanski, B. Liao, and R. E. Zielinski: Calmodulin Isoforms Differentially Enhance the Binding of Cauliflower Nuclear Proteins and Recombinant TGA3 to a Region Derived from the Arabidopsis *Cam-3* Promoter, 1069–1077
Nucleolins
L. Bögre, C. Jonak, M. Mink, I. Meskiene, J. Traas, D. T. C. Ha, I. Swoboda, C. Plank, E. Wagner, E. Heberle-Bors, and H. Hirt: Developmental and Cell Cycle Regulation of Alfalfa *nucMs1*, a Plant Homolog of the Yeast Nsr1 and Mammalian Nucleolin, 417–428
Nucleosomes
X. Niu, C. C. Adams, J. L. Workman, and M. J. Guiltinan: Binding of the Wheat Basic Leucine Zipper Protein EmBP-1 to Nucleosomal Binding Sites Is Modulated by Nucleosome Positioning, 1569–1587
Nucleotide phosphodiesterase
C. M. Calvert, S. J. Gant, and D. J. Bowles: Tomato Annexins p34 and p35 Bind to F-Actin and Display Nucleotide Phosphodiesterase Activity Inhibited by Phospholipid Binding, 333–342
nucMs1
L. Bögre, C. Jonak, M. Mink, I. Meskiene, J. Traas, D. T. C. Ha, I. Swoboda, C. Plank, E. Wagner, E. Heberle-Bors, and H. Hirt: Developmental and Cell Cycle Regulation of Alfalfa *nucMs1*, a Plant Homolog of the Yeast Nsr1 and Mammalian Nucleolin, 417–428

O

Octadecanoid signaling
G. A. Howe, J. Lightner, J. Browse, and C. A. Ryan: An Octadecanoid Pathway Mutant (JL5) of Tomato Is Compromised in Signaling for Defense against Insect Attack, 2067–2077
OEP14
H.-m. Li and L.-J. Chen: Protein Targeting and Integration Signal for the Chloroplastic Outer Envelope Membrane, 2117–2126
OEP75 protein
P. J. Tranel and K. Keegstra: A Novel, Bipartite Transit Peptide Targets OEP75 to the Outer Membrane of the Chloroplastic Envelope, 2093–2104
Okadaic acid
A. Kuo, S. Cappelluti, M. Cervantes-Cervantes, M. Rodriguez, and D. S. Bush: Okadaic Acid, a Protein Phosphatase Inhibitor, Blocks Calcium Changes, Gene Expression, and Cell Death Induced by Gibberellin in Wheat Aleurone Cells, 259–269
Oligogalacturonic acids
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276
Oligogalacturonides
D. Bellincampi, M. Cardarelli, D. Zaghi, G. Serino, G. Salvi, C. Gatz, F. Cervone, M. M. Altamura, P. Costantino, and G. De Lorenzo: Oligogalacturonides Prevent Rhizogenesis in *rolB*-Transformed Tobacco Explants by Inhibiting Auxin-Induced Expression of the *rolB* Gene, 477–487
Oocytes
B. Guralnick, G. Thomsen, and V. Citovsky: Transport of DNA into the Nuclei of Xenopus Oocytes by a Modified VirE2 Protein of Agrobacterium, 363–373
Osmolytes
C. B. Taylor: Proline and Water Deficit: Ups, Downs, Ins, and Outs (In This Issue), 1221–1224
Osmotic regulation
K. Schumaker: Spikes and Waves: Calcium-Mediated Signaling in Tip-Growing Cells (In This Issue), 1915–1916
A. R. Taylor, N. F. H. Manison, C. Fernandez, J. Wood, and C. Brownlee: Spatial Organization of Calcium Signaling Involved in Cell Volume Control in the Fucus Rhizoid, 2015–2031
Outer envelope membrane
H.-m. Li and L.-J. Chen: Protein Targeting and Integration Signal for the Chloroplastic Outer Envelope Membrane, 2117–2126
P. J. Tranel and K. Keegstra: A Novel, Bipartite Transit Peptide Targets OEP75 to the Outer Membrane of the Chloroplastic Envelope, 2093–2104
Ovule development
R. C. Elliott, A. S. Betzner, E. Huttner, M. P. Oakes, W. Q. J. Tucker, D. Gerentes, P. Perez, and D. R. Smyth: *AINTEGUMENTA*, an *APETALA2*-like Gene of Arabidopsis with Pleiotropic Roles in Ovule Development and Floral Organ Growth, 155–168
K. M. Klucher, H. Chow, L. Reiser, and R. L. Fischer: The *AINTEGUMENTA* Gene of Arabidopsis Required for Ovule and Female Gametophyte Development Is Related to the Floral Homeotic Gene *APETALA2*, 137–153
J. A. Nadeau, X. S. Zhang, J. Li, and S. D. O'Neill: Ovule Development: Identification of Stage-Specific and Tissue-Specific cDNAs, 213–239
Oxygen pressure
R. Mittler, V. Shulaev, M. Seskar, and E. Lam: Inhibition of Programmed Cell Death in Tobacco Plants during a Pathogen-Induced Hypersensitive Response at Low Oxygen Pressure, 1991–2001

P

***P* gene**
S. Chopra, P. Athma, and T. Peterson: Alleles of the Maize *P* Gene with Distinct Tissue Specificities Encode Myb-Homologous Proteins with C-Terminal Replacements, 1149–1158
p26 protein
J. J. Rudd, F. C. H. Franklin, J. M. Lord, and V. E. Franklin-Tong: Increased Phosphorylation of a 26-kD Pollen Protein Is Induced by the Self-Incompatibility Response in *Papaver rhoeas*, 713–724
***PAB5* gene**
D. A. Belostotsky and R. B. Meagher: A Pollen-, Ovule-, and Early Embryo-Specific Poly(A) Binding Protein from Arabidopsis Complements Essential Functions in Yeast, 1261–1275
Papaver rhoeas
V. E. Franklin-Tong, B. K. Drøbak, A. C. Allan, P. A. C. Watkins, and A. J. Trewavas: Growth of Pollen Tubes of *Papaver rhoeas* Is Regulated by a Slow-Moving Calcium Wave Propagated by Inositol 1,4,5-Trisphosphate, 1305–1321
J. J. Rudd, F. C. H. Franklin, J. M. Lord, and V. E. Franklin-Tong: Increased Phosphorylation of a 26-kD Pollen Protein Is Induced by the Self-Incompatibility Response in *Papaver rhoeas*, 713–724
Parasitism
V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745
Pathogenesis-related genes
C. M. J. Pieterse, S. C. M. van Wees, E. Hoffland, J. A. van Pelt, and L. C. van Loon: Systemic Resistance in Arabidopsis Induced by Biocontrol Bacteria Is Independent of Salicylic Acid Accumulation and Pathogenesis-Related Gene Expression, 1225–1237
Pathogenesis-related proteins
K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791
Pathogenicity
J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698
J. C. Carrington, K. D. Kasschau, S. K. Mahajan, and M. C. Schaad: Cell-to-Cell and Long-Distance Transport of Viruses in Plants, 1669–1681
R. W. Innes: Plant–Pathogen Interactions: Unexpected Findings on Signal Input and Output (In This Issue), 133–136
A. O. Jackson and C. B. Taylor: Plant–Microbe Interactions: Life and Death at the Interface, 1651–1668
W. Knogge: Fungal Infection of Plants, 1711–1722
G. Lau and J. E. Hamer: Regulatory Genes Controlling *MPG1* Expression and Pathogenicity in the Rice Blast Fungus *Magnaporthe grisea*, 771–781
D. L. Nuss: Using Hypoviruses to Probe and Perturb Signal Transduction Processes Underlying Fungal Pathogenesis, 1845–1853
J. Sheng and V. Citovsky: Agrobacterium–Plant Cell DNA Transport: Have Virulence Proteins, Will Travel, 1699–1710

E. Truernit, J. Schmid, P. Epple, J. Illig, and N. Sauer: The Sink-Specific and Stress-Regulated Arabidopsis *STP4* Gene: Enhanced Expression of a Gene Encoding a Monosaccharide Transporter by Wounding, Elicitors, and Pathogen Challenge, 2169–2182

J. D. Walton: Host-Selective Toxins: Agents of Compatibility, 1723–1733

V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745

Pea

H.-m. Li and L.-J. Chen: Protein Targeting and Integration Signal for the Chloroplastic Outer Envelope Membrane, 2117–2126

D. Qian, D. Zhou, R. Ju, C. L. Cramer, and Z. Yang: Protein Farnesyltransferase in Plants: Molecular Characterization and Involvement in Cell Cycle Control, 2381–2394

C. B. Taylor: Farnesylation—A Sticky Business (In This Issue), 2151–2153

J. L. Weller, M. J. Terry, C. Rameau, J. B. Reid, and R. E. Kendrick: The Phytochrome-Deficient *pcd1* Mutant of Pea Is Unable to Convert Heme to Biliverdin IXα, 55–67

Pectic enzymes

J. R. Alfano and A. Collmer: Bacterial Pathogens in Plants: Life up against the Wall, 1683–1698

Peronospora parasitica

B. Mauch-Mani and A. J. Slusarenko: Production of Salicylic Acid Precursors Is a Major Function of Phenylalanine Ammonia-Lyase in the Resistance of Arabidopsis to *Peronospora parasitica*, 203–212

J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046

Petunia

R. ten Hoopen, T. P. Robbins, P. F. Fransz, B. M. Montijn, O. Oud, A. G. M. Gerats, and N. Nanninga: Localization of T-DNA Insertions in Petunia by Fluorescence in Situ Hybridization: Physical Evidence for Suppression of Recombination, 823–830

pH regulation

S. J. Swanson and R. L. Jones: Gibberellic Acid Induces Vacuolar Acidification in Barley Aleurone, 2211–2221

Phalaenopsis orchids

J. A. Nadeau, X. S. Zhang, J. Li, and S. D. O'Neill: Ovule Development: Identification of Stage-Specific and Tissue-Specific cDNAs, 213–239

Phenylalanine ammonia-lyase

B. Mauch-Mani and A. J. Slusarenko: Production of Salicylic Acid Precursors Is a Major Function of Phenylalanine Ammonia-Lyase in the Resistance of Arabidopsis to *Peronospora parasitica*, 203–212

Phloem transport

M. Stitt: Plasmodesmata Play an Essential Role in Sucrose Export from Leaves: A Step toward an Integration of Metabolic Biochemistry and Cell Biology (In This Issue), 565–571

Phospho*enol*pyruvate carboxylase

N. Giglioli-Guivarc'h, J.-N. Pierre, S. Brown, R. Chollet, J. Vidal, and P. Gadal: The Light-Dependent Transduction Pathway Controlling the Regulatory Phosphorylation of C4 Phospho*enol*pyruvate Carboxylase in Protoplasts from *Digitaria sanguinalis*, 573–586

Phospholipase D

S. A. Young, X. Wang, and J. E. Leach: Changes in the Plasma Membrane Distribution of Rice Phospholipase D during Resistant Interactions with *Xanthomonas oryzae* pv *oryzae*, 1079–1090

Phospholipids

C. M. Calvert, S. J. Gant, and D. J. Bowles: Tomato Annexins p34 and p35 Bind to F-Actin and Display Nucleotide Phosphodiesterase Activity Inhibited by Phospholipid Binding, 333–342

Phosphorylation

M. Bachmann, N. Shiraishi, W. H. Campbell, B.-C. Yoo, A. C. Harmon, and S. C. Huber: Identification of Ser-543 as the Major Regulatory Phosphorylation Site in Spinach Leaf Nitrate Reductase, 505–517

N. Giglioli-Guivarc'h, J.-N. Pierre, S. Brown, R. Chollet, J. Vidal, and P. Gadal: The Light-Dependent Transduction Pathway Controlling the Regulatory Phosphorylation of C4 Phospho*enol*pyruvate Carboxylase in Protoplasts from *Digitaria sanguinalis*, 573–586

I. Johansson, C. Larsson, B. Ek, and P. Kjellbom: The Major Integral Proteins of Spinach Leaf Plasma Membranes Are Putative Aquaporins and Are Phosphorylated in Response to Ca^{2+} and Apoplastic Water Potential, 1181–1191

J. J. Rudd, F. C. H. Franklin, J. M. Lord, and V. E. Franklin-Tong: Increased Phosphorylation of a 26-kD Pollen Protein Is Induced by the Self-Incompatibility Response in *Papaver rhoeas*, 713–724

G. Sessa, V. Raz, S. Savaldi, and R. Fluhr: PK12, a Plant Dual-Specificity Protein Kinase of the LAMMER Family, Is Regulated by the Hormone Ethylene, 2223–2234

T. Xing, V. J. Higgins, and E. Blumwald: Regulation of Plant Defense Response to Fungal Pathogens: Two Types of Protein Kinases in the Reversible Phosphorylation of the Host Plasma Membrane H^+-ATPase, 555–564

Photomorphogenesis

T. W. McNellis, K. U. Torii, and X.-W. Deng: Expression of an N-Terminal Fragment of COP1 Confers a Dominant-Negative Effect on Light-Regulated Seedling Development in Arabidopsis, 1491–1503

J. L. Weller, M. J. Terry, C. Rameau, J. B. Reid, and R. E. Kendrick: The Phytochrome-Deficient *pcd1* Mutant of Pea Is Unable to Convert Heme to Biliverdin IXα, 55–67

Photoreception

J. M. Christie and G. I. Jenkins: Distinct UV-B and UV-A/Blue Light Signal Transduction Pathways Induce Chalcone Synthase Gene Expression in Arabidopsis Cells, 1555–1567

Phytochrome

J. Degenhardt and E. M. Tobin: A DNA Binding Activity for One of Two Closely Defined Phytochrome Regulatory Elements in an *Lhcb* Promoter Is More Abundant in Etiolated Than in Green Plants, 31–41

Phytochrome A

S. A. Barnes, N. K. Nishizawa, R. B. Quaggio, G. C. Whitelam, and N.-H. Chua: Far-Red Light Blocks Greening of Arabidopsis Seedlings via a Phytochrome A–Mediated Change in Plastid Development, 601–615.

M. Ni, K. Dehesh, J. M. Tepperman, and P. H. Quail: GT-2: In Vivo Transcriptional Activation Activity and Definition of Novel Twin DNA Binding Domains with Reciprocal Target Sequence Selectivity, 1041–1059

Phytochrome B

D. Wagner, M. Koloszvari, and P. H. Quail: Two Small Spatially Distinct Regions of Phytochrome B Are Required for Efficient Signaling Rates, 859–871

Phytochrome chromophore deficient 1 mutant

J. L. Weller, M. J. Terry, C. Rameau, J. B. Reid, and R. E. Kendrick: The Phytochrome-Deficient *pcd1* Mutant of Pea Is Unable to Convert Heme to Biliverdin IXα, 55–67

Phytotoxin

H. Wang, J. Li, R. M. Bostock, and D. G. Gilchrist: Apoptosis: A Functional Paradigm for Programmed Plant Cell Death Induced by a Host-Selective Phytotoxin and Invoked during Development, 375–391

Pichia pastoris

W. Su, S. C. Huber, and N. M. Crawford: Identification in Vitro of a Post-Translational Regulatory Site in the Hinge 1 Region of Arabidopsis Nitrate Reductase, 519–527

Pigmentation

S. Chopra, P. Athma, and T. Peterson: Alleles of the Maize *P* Gene with Distinct Tissue Specificities Encode Myb-Homologous Proteins with C-Terminal Replacements, 1149–1158

PK12

G. Sessa, V. Raz, S. Savaldi, and R. Fluhr: PK12, a Plant Dual-Specificity Protein Kinase of the LAMMER Family, Is Regulated by the Hormone Ethylene, 2223–2234

Plasma membrane

N. Ferrol and A. B. Bennett: A Single Gene May Encode Differentially Localized Ca^{2+}-ATPases in Tomato, 1159–1169

I. Johansson, C. Larsson, B. Ek, and P. Kjellbom: The Major Integral Proteins of Spinach Leaf Plasma Membranes Are Putative Aquaporins and Are Phosphorylated in Response to Ca^{2+} and Apoplastic Water Potential, 1181–1191
M. Kooman-Gersmann, G. Honée, G. Bonnema, and P. J. G. M. De Wit: A High-Affinity Binding Site for the AVR9 Peptide Elicitor of *Cladosporium fulvum* Is Present on Plasma Membranes of Tomato and Other Solanaceous Plants, 929–938
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276
J. C. Stein, R. Dixit, M. E. Nasrallah, and J. B. Nasrallah: SRK, the Stigma-Specific S Locus Receptor Kinase of Brassica, Is Targeted to the Plasma Membrane in Transgenic Tobacco, 429–445
S. A. Young, X. Wang, and J. E. Leach: Changes in the Plasma Membrane Distribution of Rice Phospholipase D during Resistant Interactions with *Xanthomonas oryzae* pv *oryzae*, 1079–1090

Plasma membrane H^+-ATPase
I. Frías, M. T. Caldeira, J. R. Pérez-Castiñeira, J. P. Navarro-Aviñó, F. A. Culiañez-Maciá, O. Kuppinger, H. Stransky, M. Pagés, A. Hager, and R. Serrano: A Major Isoform of the Maize Plasma Membrane H^+-ATPase: Characterization and Induction by Auxin in Coleoptiles, 1533–1544

Plasmodesmata
J. C. Carrington, K. D. Kasschau, S. K. Mahajan, and M. C. Schaad: Cell-to-Cell and Long-Distance Transport of Viruses in Plants, 1669–1681
W. A. Russin, R. F. Evert, P. J. Vanderveer, T. D. Sharkey, and S. P. Briggs: Modification of a Specific Class of Plasmodesmata and Loss of Sucrose Export Ability in the *sucrose export defective1* Maize Mutant, 645–658
M. Stitt: Plasmodesmata Play an Essential Role in Sucrose Export from Leaves: A Step toward an Integration of Metabolic Biochemistry and Cell Biology (In This Issue), 565–571

Plastid development
S. A. Barnes, N. K. Nishizawa, R. B. Quaggio, G. C. Whitelam, and N.-H. Chua: Far-Red Light Blocks Greening of Arabidopsis Seedlings via a Phytochrome A–Mediated Change in Plastid Development, 601–615.

Plastid genes
J. Meurer, A. Berger, and P. Westhoff: A Nuclear Mutant of Arabidopsis with Impaired Stability on Distinct Transcripts of the Plastid *psbB*, *psbD/C*, *ndhH*, and *ndhC* Operons, 1193–1207

Pollen
Y.-Q. An, S. Huang, J. M. McDowell, E. C. McKinney, and R. B. Meagher: Conserved Expression of the Arabidopsis *ACT1* and *ACT3* Actin Subclass in Organ Primordia and Mature Pollen, 15–30
J. J. Rudd, F. C. H. Franklin, J. M. Lord, and V. E. Franklin-Tong: Increased Phosphorylation of a 26-kD Pollen Protein Is Induced by the Self-Incompatibility Response in *Papaver rhoeas*, 713–724

Pollen development
M. McConn and J. Browse: The Critical Requirement for Linolenic Acid Is Pollen Development, Not Photosynthesis, in an Arabidopsis Mutant, 403–416

Pollen tubes
V. E. Franklin-Tong, B. K. Drøbak, A. C. Allan, P. A. C. Watkins, and A. J. Trewavas: Growth of Pollen Tubes of *Papaver rhoeas* Is Regulated by a Slow-Moving Calcium Wave Propagated by Inositol 1,4,5-Trisphosphate, 1305–1321
Y. Lin, Y. Wang, J.-k. Zhu, and Z. Yang: Localization of a Rho GTPase Implies a Role in Tip Growth and Movement of the Generative Cell in Pollen Tubes, 293–303
R. Malhó and A. J. Trewavas: Localized Apical Increases of Cytosolic Free Calcium Control Pollen Tube Orientation, 1935–1949

Poly(A) binding proteins
D. A. Belostotsky and R. B. Meagher: A Pollen-, Ovule-, and Early Embryo-Specific Poly(A) Binding Protein from Arabidopsis Complements Essential Functions in Yeast, 1261–1275

Polygalacturonic acids
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276

Polyketide synthase
G. Yang, M. S. Rose, B. G. Turgeon, and O. C. Yoder: A Polyketide Synthase Is Required for Fungal Virulence and Production of the Polyketide T-Toxin, 2139–2150

POR enzymes
S. Reinbothe, C. Reinbothe, N. Lebedev, and K. Apel: PORA and PORB, Two Light-Dependent Protochlorophyllide-Reducing Enzymes of Angiosperm Chlorophyll Biosynthesis, 763–769

Potassium
S.-J. Wu, L. Ding, and J.-K. Zhu: *SOS1*, a Genetic Locus Essential for Salt Tolerance and Potassium Acquisition, 617–627

Potato
J. Marshall, C. Sidebottom, M. Debet, C. Martin, A. M. Smith, and A. Edwards: Identification of the Major Starch Synthase in the Soluble Fraction of Potato Tubers, 1121–1135
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276

Potato virus X
J. J. English, E. Mueller, and D. C. Baulcombe: Suppression of Virus Accumulation in Transgenic Plants Exhibiting Silencing of Nuclear Genes, 179–188
T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294

Potato virus Y
K. Herbers, P. Meuwly, W. B. Frommer, J.-P. Métraux, and U. Sonnewald: Systemic Acquired Resistance Mediated by the Ectopic Expression of Invertase: Possible Hexose Sensing in the Secretory Pathway, 793–803

Powdery mildew
A. Freialdenhoven, C. Peterhänsel, J. Kurth, F. Kreuzaler, and P. Schulze-Lefert: Identification of Genes Required for the Function of Non-Race-Specific *mlo* Resistance to Powdery Mildew in Barley, 5–14
J. Görlach, S. Volrath, G. Knauf-Beiter, G. Hengy, U. Beckhove, K.-H. Kogel, M. Oostendorp, T. Staub, E. Ward, H. Kessmann, and J. Ryals: Benzothiadiazole, a Novel Class of Inducers of Systemic Acquired Resistance, Activates Gene Expression and Disease Resistance in Wheat, 629–643

Preamylopectin
G. Mouille, M.-L. Maddelein, N. Libessart, P. Talaga, A. Decq, B. Delrue, and S. Ball: Preamylopectin Processing: A Mandatory Step for Starch Biosynthesis in Plants, 1353–1366

Pre-mRNA splicing
A. J. McCullough, C. E. Baynton, and M. A. Schuler: Interactions across Exons Can Influence Splice Site Recognition in Plant Nuclei, 2295–2307

Pre-mRNAs
M. Golovkin and A. S. N. Reddy: Structure and Expression of a Plant U1 snRNP 70K Gene: Alternative Splicing of U1 snRNP 70K Pre-mRNAs Produces Two Different Transcripts, 1421–1435
J. Yang, G. Schuster, and D. B. Stern: CSP41, a Sequence-Specific Chloroplast mRNA Binding Protein, Is an Endoribonuclease, 1409–1420

Prenylation
C. B. Taylor: Farnesylation—A Sticky Business (In This Issue), 2151–2153

Primordia
Y.-Q. An, S. Huang, J. M. McDowell, E. C. McKinney, and R. B. Meagher: Conserved Expression of the Arabidopsis *ACT1* and *ACT3* Actin Subclass in Organ Primordia and Mature Pollen, 15–30

Programmed cell death
J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807

R. Mittler, V. Shulaev, M. Seskar, and E. Lam: Inhibition of Programmed Cell Death in Tobacco Plants during a Pathogen-Induced Hypersensitive Response at Low Oxygen Pressure, 1991–2001

D. E. Ryerson and M. C. Heath: Cleavage of Nuclear DNA into Oligonucleosomal Fragments during Cell Death Induced by Fungal Infection or by Abiotic Treatments, 393–402

H. Wang, J. Li, R. M. Bostock, and D. G. Gilchrist: Apoptosis: A Functional Paradigm for Programmed Plant Cell Death Induced by a Host-Selective Phytotoxin and Invoked during Development, 375–391

Proline

T. Kiyosue, Y. Yoshiba, K. Yamaguchi-Shinozaki, and K. Shinozaki: A Nuclear Gene Encoding Mitochondrial Proline Dehydrogenase, an Enzyme Involved in Proline Metabolism, Is Upregulated by Proline but Downregulated by Dehydration in Arabidopsis, 1323–1335

D. Rentsch, B. Hirner, E. Schmelzer, and W. B. Frommer: Salt Stress–Induced Proline Transporters and Salt Stress–Repressed Broad Specificity Amino Acid Permeases Identified by Suppression of a Yeast Amino Acid Permease–Targeting Mutant, 1437–1446

C. B. Taylor: Proline and Water Deficit: Ups, Downs, Ins, and Outs (In This Issue), 1221–1224

Protein bodies

A. M. Clore, J. M. Dannenhoffer, and B. A. Larkins: EF-1α Is Associated with a Cytoskeletal Network Surrounding Protein Bodies in Maize Endosperm Cells, 2003–2014

C. E. Coleman, E. M. Herman, K. Takasaki, and B. A. Larkins: The Maize γ-Zein Sequesters α-Zein and Stabilizes Its Accumulation in Protein Bodies of Transgenic Tobacco Endosperm, 2335–2345

Protein import

C. Sulli and S. D. Schwartzbach: A Soluble Protein Is Imported into Euglena Chloroplasts as a Membrane-Bound Precursor, 43–53

P. J. Tranel and K. Keegstra: A Novel, Bipartite Transit Peptide Targets OEP75 to the Outer Membrane of the Chloroplastic Envelope, 2093–2104

Protein targeting

H.-m. Li and L.-J. Chen: Protein Targeting and Integration Signal for the Chloroplastic Outer Envelope Membrane, 2117–2126

Protein transport

A. Kato, M. Hayashi, M. Kondo, and M. Nishimura: Targeting and Processing of a Chimeric Protein with the N-Terminal Presequence of the Precursor to Glyoxysomal Citrate Synthase, 1601–1611

Protochlorophyllide reductase genes

S. A. Barnes, N. K. Nishizawa, R. B. Quaggio, G. C. Whitelam, and N.-H. Chua: Far-Red Light Blocks Greening of Arabidopsis Seedlings via a Phytochrome A–Mediated Change in Plastid Development, 601–615.

Protoplast ghosts

J. Marc, D. E. Sharkey, N. A. Durso, M. Zhang, and R. J. Cyr: Isolation of a 90-kD Microtubule-Associated Protein from Tobacco Membranes, 2127–2138

Pseudomonas syringae

S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105

R. W. Innes: Plant–Pathogen Interactions: Unexpected Findings on Signal Input and Output (In This Issue), 133–136

C. Ritter and J. L. Dangl: Interference between Two Specific Pathogen Recognition Events Mediated by Distinct Plant Disease Resistance Genes, 251–257

E. Truernit, J. Schmid, P. Epple, J. Illig, and N. Sauer: The Sink-Specific and Stress-Regulated Arabidopsis *STP4* Gene: Enhanced Expression of a Gene Encoding a Monosaccharide Transporter by Wounding, Elicitors, and Pathogen Challenge, 2169–2182

Pseudomonas syringae* pv *glycinea

J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046

Pseudomonas syringae* pv *maculicola

T. L. Reuber and F. M. Ausubel: Isolation of Arabidopsis Genes That Differentiate between Resistance Responses Mediated by the *RPS2* and *RPM1* Disease Resistance Genes, 241–249

Pseudomonas syringae* pv *tomato

A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771

C. M. J. Pieterse, S. C. M. van Wees, E. Hoffland, J. A. van Pelt, and L. C. van Loon: Systemic Resistance in Arabidopsis Induced by Biocontrol Bacteria Is Independent of Salicylic Acid Accumulation and Pathogenesis-Related Gene Expression, 1225–1237

Puccinia sorghi

G. Hu, T. E. Richter, S. H. Hulbert, and T. Pryor: Disease Lesion Mimicry Caused by Mutations in the Rust Resistance Gene *rp1*, 1367–1376

Pumpkin

A. Kato, M. Hayashi, M. Kondo, and M. Nishimura: Targeting and Processing of a Chimeric Protein with the N-Terminal Presequence of the Precursor to Glyoxysomal Citrate Synthase, 1601–1611

***PUT1* gene**

T. Kiyosue, Y. Yoshiba, K. Yamaguchi-Shinozaki, and K. Shinozaki: A Nuclear Gene Encoding Mitochondrial Proline Dehydrogenase, an Enzyme Involved in Proline Metabolism, Is Upregulated by Proline but Downregulated by Dehydration in Arabidopsis, 1323–1335

PvALF

M.-S. Chern, A. J. Bobb, and M. M. Bustos: The Regulator of *MAT2* (ROM2) Protein Binds to Early Maturation Promoters and Represses PvALF-Activated Transcription, 305–321

R

Rab-GDI

T. Ueda, N. Matsuda, T. Anai, H. Tsukaya, H. Uchimiya, and A. Nakano: An Arabidopsis Gene Isolated by a Novel Method for Detecting Genetic Interaction in Yeast Encodes the GDP Dissociation Inhibitor of Ara4 GTPase, 2079–2091

***r1/b1* multigene family**

F. A. Burr, B. Burr, B. E. Scheffler, M. Blewitt, U. Wienand, and E. C. Matz: The Maize Repressor-like Gene *intensifier1* Shares Homology with the *r1/b1* Multigene Family of Transcription Factors and Exhibits Missplicing, 1249–1259

Reactive oxygen intermediates

J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807

Reactive oxygen species

K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791

Receptor protein kinase

K. U. Torii, N. Mitsukawa, T. Oosumi, Y. Matsuura, R. Yokoyama, R. F. Whittier, and Y. Komeda: The Arabidopsis *ERECTA* Gene Encodes a Putative Receptor Protein Kinase with Extracellular Leucine-Rich Repeats, 735–746

Receptor-like protein kinases

M. S. Bower, D. D. Matias, E. Fernandes-Carvalho, M. Mazzurco, T. Gu, S. J. Rothstein, and D. R. Goring: Two Members of the Thioredoxin-h Family Interact with the Kinase Domain of a Brassica *S* Locus Receptor Kinase, 1641–1650

Recombinant antibody

M. N. V. Williams, G. Freshour, A. G. Darvill, P. Albersheim, and M. G. Hahn: An Antibody Fab Selected from a Recombinant Phage Display Library Detects Deesterified Pectic Polysaccharide Rhamnogalacturonan II in Plant Cells, 673–685

Research information

S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933

Resistance

D. C. Baulcombe: Mechanisms of Pathogen-Derived Resistance to Viruses in Transgenic Plants, 1833–1844

A. Freialdenhoven, C. Peterhänsel, J. Kurth, F. Kreuzaler, and P. Schulze-Lefert: Identification of Genes Required for the Function of Non-Race-Specific *mlo* Resistance to Powdery Mildew in Barley, 5–14

J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869
G. A. Howe, J. Lightner, J. Browse, and C. A. Ryan: An Octadecanoid Pathway Mutant (JL5) of Tomato Is Compromised in Signaling for Defense against Insect Attack, 2067–2077
A. O. Jackson and C. B. Taylor: Plant–Microbe Interactions: Life and Death at the Interface, 1651–1668
B. Mauch-Mani and A. J. Slusarenko: Production of Salicylic Acid Precursors Is a Major Function of Phenylalanine Ammonia-Lyase in the Resistance of Arabidopsis to *Peronospora parasitica*, 203–212
A. E. Osbourn: Preformed Antimicrobial Compounds and Plant Defense against Fungal Attack, 1821–1831
J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046
T. L. Reuber and F. M. Ausubel: Isolation of Arabidopsis Genes That Differentiate between Resistance Responses Mediated by the *RPS2* and *RPM1* Disease Resistance Genes, 241–249
C. Ritter and J. L. Dangl: Interference between Two Specific Pathogen Recognition Events Mediated by Distinct Plant Disease Resistance Genes, 251–257
T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294

Resistance genes
A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771
I. R. Crute and D. A. C. Pink: Genetics and Utilization of Pathogen Resistance in Plants, 1747–1755
J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807
S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105
K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791
G. Hu, T. E. Richter, S. H. Hulbert, and T. Pryor: Disease Lesion Mimicry Caused by Mutations in the Rust Resistance Gene *rp1*, 1367–1376
R. W. Innes: Plant–Pathogen Interactions: Unexpected Findings on Signal Input and Output (In This Issue), 133–136
C. B. Taylor: Inside Avirulence (In This Issue), 1091–1093
V. M. Williamson and R. S. Hussey: Nematode Pathogenesis and Resistance in Plants, 1735–1745

Retrotransposons
H. Hirochika, H. Otsuki, M. Yoshikawa, Y. Otsuki, K. Sugimoto, and S. Takeda: Autonomous Transposition of the Tobacco Retrotransposon *Tto1* in Rice, 725–734

Rhamnogalacturonan II
M. N. V. Williams, G. Freshour, A. G. Darvill, P. Albersheim, and M. G. Hahn: An Antibody Fab Selected from a Recombinant Phage Display Library Detects Deesterified Pectic Polysaccharide Rhamnogalacturonan II in Plant Cells, 673–685

Rhizobial symbiosis
V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913

Rhizogenesis
D. Bellincampi, M. Cardarelli, D. Zaghi, G. Serino, G. Salvi, C. Gatz, F. Cervone, M. M. Altamura, P. Costantino, and G. De Lorenzo: Oligogalacturonides Prevent Rhizogenesis in *rolB*-Transformed Tobacco Explants by Inhibiting Auxin-Induced Expression of the *rolB* Gene, 477–487

Rhizosphere
J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869

Rhodospirillum rubrum
R. Rowan, S. M. Whitney, A. Fowler, and D. Yellowlees: Rubisco in Marine Symbiotic Dinoflagellates: Form II Enzymes in Eukaryotic Oxygenic Phototrophs Encoded by a Nuclear Multigene Family, 539–553

Ribosomal protein S12 gene
M. R. Hanson: Protein Products of Incompletely Edited Transcripts Are Detected in Plant Mitochondria (In This Issue), 1–3
C. G. Phreaner, M. A. Williams, and R. M. Mulligan: Incomplete Editing of *rps12* Transcripts Results in the Synthesis of Polymorphic Polypeptides in Plant Mitochondria, 107–117

Ribulose-1,5-bisphosphate carboxylase/oxygenase
J. D. Palmer: Rubisco Surprises in Dinoflagellates (In This Issue), 343–345
R. Rowan, S. M. Whitney, A. Fowler, and D. Yellowlees: Rubisco in Marine Symbiotic Dinoflagellates: Form II Enzymes in Eukaryotic Oxygenic Phototrophs Encoded by a Nuclear Multigene Family, 539–553

Rice
H. Hirochika, H. Otsuki, M. Yoshikawa, Y. Otsuki, K. Sugimoto, and S. Takeda: Autonomous Transposition of the Tobacco Retrotransposon *Tto1* in Rice, 725–734
M. Ni, K. Dehesh, J. M. Tepperman, and P. H. Quail: GT-2: In Vivo Transcriptional Activation Activity and Definition of Novel Twin DNA Binding Domains with Reciprocal Target Sequence Selectivity, 1041–1059
S. A. Young, X. Wang, and J. E. Leach: Changes in the Plasma Membrane Distribution of Rice Phospholipase D during Resistant Interactions with *Xanthomonas oryzae* pv *oryzae*, 1079–1090

RNA editing
M. R. Hanson: Protein Products of Incompletely Edited Transcripts Are Detected in Plant Mitochondria (In This Issue), 1–3
C. G. Phreaner, M. A. Williams, and R. M. Mulligan: Incomplete Editing of *rps12* Transcripts Results in the Synthesis of Polymorphic Polypeptides in Plant Mitochondria, 107–117

RNA processing
J. Meurer, A. Berger, and P. Westhoff: A Nuclear Mutant of Arabidopsis with Impaired Stability on Distinct Transcripts of the Plastid *psbB*, *psbD/C*, *ndhH*, and *ndhC* Operons, 1193–1207

RNA-mediated resistance
D. C. Baulcombe: Mechanisms of Pathogen-Derived Resistance to Viruses in Transgenic Plants, 1833–1844

***rolB* gene**
D. Bellincampi, M. Cardarelli, D. Zaghi, G. Serino, G. Salvi, C. Gatz, F. Cervone, M. M. Altamura, P. Costantino, and G. De Lorenzo: Oligogalacturonides Prevent Rhizogenesis in *rolB*-Transformed Tobacco Explants by Inhibiting Auxin-Induced Expression of the *rolB* Gene, 477–487

ROM2
M.-S. Chern, A. J. Bobb, and M. M. Bustos: The Regulator of *MAT2* (ROM2) Protein Binds to Early Maturation Promoters and Represses PvALF-Activated Transcription, 305–321

Root development
N.-C. Huang, C.-S. Chiang, N. M. Crawford, and Y.-F. Tsay: *CHL1* Encodes a Component of the Low-Affinity Nitrate Uptake System in Arabidopsis and Shows Cell Type–Specific Expression in Roots, 2183–2191

Root hairs
J. D. Masucci and J. W. Schiefelbein: Hormones Act Downstream of *TTG* and *GL2* to Promote Root Hair Outgrowth during Epidermis Development in the Arabidopsis Root, 1505–1517

Rop protein
Y. Lin, Y. Wang, J.-k. Zhu, and Z. Yang: Localization of a Rho GTPase Implies a Role in Tip Growth and Movement of the Generative Cell in Pollen Tubes, 293–303

***rp1* lesion-mimic genes**
G. Hu, T. E. Richter, S. H. Hulbert, and T. Pryor: Disease Lesion Mimicry Caused by Mutations in the Rust Resistance Gene *rp1*, 1367–1376

RPM1
T. L. Reuber and F. M. Ausubel: Isolation of Arabidopsis Genes That Differentiate between Resistance Responses Mediated by the *RPS2* and *RPM1* Disease Resistance Genes, 241–249
C. Ritter and J. L. Dangl: Interference between Two Specific Pathogen Recognition Events Mediated by Distinct Plant Disease Resistance Genes, 251–257

***RPP* genes**
J. E. Parker, E. B. Holub, L. N. Frost, A. Falk, N. D. Gunn, and M. J. Daniels: Characterization of *eds1*, a Mutation in Arabidopsis Suppressing Resistance to *Peronospora parasitica* Specified by Several Different *RPP* Genes, 2033–2046

RPS2
T. L. Reuber and F. M. Ausubel: Isolation of Arabidopsis Genes That Differentiate between Resistance Responses Mediated by the *RPS2* and *RPM1* Disease Resistance Genes, 241–249
C. Ritter and J. L. Dangl: Interference between Two Specific Pathogen Recognition Events Mediated by Distinct Plant Disease Resistance Genes, 251–257

S

***S* locus**
J. Murfett, T. J. Strabala, D. M. Zurek, B. Mou, B. Beecher, and B. A. McClure: *S* RNase and Interspecific Pollen Rejection in the Genus *Nicotiana*: Multiple Pollen-Rejection Pathways Contribute to Unilateral Incompatibility between Self-Incompatible and Self-Compatible Species, 943–958
C. B. Taylor: More Arresting Developments: *S* RNases and Interspecific Incompatibility (In This Issue), 939–941
Y. Xue, R. Carpenter, H. G. Dickinson, and E. S. Coen: Origin of Allelic Diversity in Antirrhinum *S* Locus RNases, 805–814

***S* locus glycoprotein gene**
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

***S* locus receptor kinase**
M. S. Bower, D. D. Matias, E. Fernandes-Carvalho, M. Mazzurco, T. Gu, S. J. Rothstein, and D. R. Goring: Two Members of the Thioredoxin-h Family Interact with the Kinase Domain of a Brassica *S* Locus Receptor Kinase, 1641–1650

***S* locus receptor kinase gene**
J. C. Stein, R. Dixit, M. E. Nasrallah, and J. B. Nasrallah: SRK, the Stigma-Specific S Locus Receptor Kinase of Brassica, Is Targeted to the Plasma Membrane in Transgenic Tobacco, 429–445
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

***S* locus–linked genes**
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

***S* RNases**
J. Murfett, T. J. Strabala, D. M. Zurek, B. Mou, B. Beecher, and B. A. McClure: *S* RNase and Interspecific Pollen Rejection in the Genus *Nicotiana*: Multiple Pollen-Rejection Pathways Contribute to Unilateral Incompatibility between Self-Incompatible and Self-Compatible Species, 943–958
C. B. Taylor: More Arresting Developments: *S* RNases and Interspecific Incompatibility (In This Issue), 939–941
Y. Xue, R. Carpenter, H. G. Dickinson, and E. S. Coen: Origin of Allelic Diversity in Antirrhinum *S* Locus RNases, 805–814

***SAL1* gene**
F. J. Quintero, B. Garciadeblás, and A. Rodríguez-Navarro: The *SAL1* Gene of Arabidopsis, Encoding an Enzyme with 3′(2′), 5′-Bisphosphate Nucleotidase and Inositol Polyphosphate 1-Phosphatase Activities, Increases Salt Tolerance in Yeast, 529–537

Salicylic acid
J. L. Dangl, R. A. Dietrich, and M. H. Richberg: Death Don't Have No Mercy: Cell Death Programs in Plant–Microbe Interactions, 1793–1807
K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791
B. Mauch-Mani and A. J. Slusarenko: Production of Salicylic Acid Precursors Is a Major Function of Phenylalanine Ammonia-Lyase in the Resistance of Arabidopsis to *Peronospora parasitica*, 203–212
I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323
C. M. J. Pieterse, S. C. M. van Wees, E. Hoffland, J. A. van Pelt, and L. C. van Loon: Systemic Resistance in Arabidopsis Induced by Biocontrol Bacteria Is Independent of Salicylic Acid Accumulation and Pathogenesis-Related Gene Expression, 1225–1237
J. A. Ryals, U. H. Neuenschwander, M. G. Willits, A. Molina, H.-Y. Steiner, and M. D. Hunt: Systemic Acquired Resistance, 1809–1819
J. Zhao and R. L. Last: Coordinate Regulation of the Tryptophan Biosynthetic Pathway and Indolic Phytoalexin Accumulation in Arabidopsis, 2235–2244

Salt stress
D. Rentsch, B. Hirner, E. Schmelzer, and W. B. Frommer: Salt Stress–Induced Proline Transporters and Salt Stress–Repressed Broad Specificity Amino Acid Permeases Identified by Suppression of a Yeast Amino Acid Permease–Targeting Mutant, 1437–1446
C. B. Taylor: Proline and Water Deficit: Ups, Downs, Ins, and Outs (In This Issue), 1221–1224

Salt tolerance
F. J. Quintero, B. Garciadeblás, and A. Rodríguez-Navarro: The *SAL1* Gene of Arabidopsis, Encoding an Enzyme with 3′(2′), 5′-Bisphosphate Nucleotidase and Inositol Polyphosphate 1-Phosphatase Activities, Increases Salt Tolerance in Yeast, 529–537
S.-J. Wu, L. Ding, and J-K. Zhu: *SOS1*, a Genetic Locus Essential for Salt Tolerance and Potassium Acquisition, 617–627

Saponins
A. E. Osbourn: Preformed Antimicrobial Compounds and Plant Defense against Fungal Attack, 1821–1831

***SbHRGP3* gene**
J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490

Scaffold attachment region
G. C. Allen, G. Hall, Jr., S. Michalowski, W. Newman, S. Spiker, A. K. Weissinger, and W. F. Thompson: High-Level Transgene Expression in Plant Cells: Effects of a Strong Scaffold Attachment Region from Tobacco, 899–913

Scientific research
R. B. Goldberg: To Grant or Not (Commentary), 346–347

Secondary metabolites
J. Zhao and R. L. Last: Coordinate Regulation of the Tryptophan Biosynthetic Pathway and Indolic Phytoalexin Accumulation in Arabidopsis, 2235–2244

Seed development
W.-H. Cheng, E. W. Taliercio, and P. S. Chourey: The *Miniature1* Seed Locus of Maize Encodes a Cell Wall Invertase Required for Normal Development of Endosperm and Maternal Cells in the Pedicel, 971–983
C. E. Coleman, E. M. Herman, K. Takasaki, and B. A. Larkins: The Maize γ-Zein Sequesters α-Zein and Stabilizes Its Accumulation in Protein Bodies of Transgenic Tobacco Endosperm, 2335–2345
S. E. Perry, K. W. Nichols, and D. E. Fernandez: The MADS Domain Protein AGL15 Localizes to the Nucleus during Early Stages of Seed Development, 1977–1989

Seed stock centers
S. Somerville and C. Somerville: Arabidopsis at 7: Still Growing Like a Weed (Meeting Report), 1917–1933

Seedling development
T. W. McNellis, K. U. Torii, and X.-W. Deng: Expression of an N-Terminal Fragment of COP1 Confers a Dominant-Negative Effect on Light-Regulated Seedling Development in Arabidopsis, 1491–1503

Self-incompatibility
J. J. Rudd, F. C. H. Franklin, J. M. Lord, and V. E. Franklin-Tong: Increased Phosphorylation of a 26-kD Pollen Protein Is Induced by the Self-Incompatibility Response in *Papaver rhoeas*, 713–724
Y. Xue, R. Carpenter, H. G. Dickinson, and E. S. Coen: Origin of Allelic Diversity in Antirrhinum *S* Locus RNases, 805–814
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

SHOOT MERISTEMLESS
G. Chuck, C. Lincoln, and S. Hake: *KNAT1* Induces Lobed Leaves with Ectopic Meristems When Overexpressed in Arabidopsis, 1277–1289

Signal recognition
V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898

Signal transduction
A.F. Bent: Plant Disease Resistance Genes: Function Meets Structure, 1757–1771
J. M. Christie and G. I. Jenkins: Distinct UV-B and UV-A/Blue Light Signal Transduction Pathways Induce Chalcone Synthase Gene Expression in Arabidopsis Cells, 1555–1567
G. Fuglevand, J. A. Jackson, and G. I. Jenkins: UV-B, UV-A, and Blue Light Signal Transduction Pathways Interact Synergistically to Regulate Chalcone Synthase Gene Expression in Arabidopsis, 2347–2357
S. Gilroy: Signal Transduction in Barley Aleurone Protoplasts Is Calcium Dependent and Independent, 2193–2209
K. E. Hammond-Kosack and J. D. G. Jones: Resistance Gene–Dependent Plant Defense Responses, 1773–1791
G. A. Howe, J. Lightner, J. Browse, and C. A. Ryan: An Octadecanoid Pathway Mutant (JL5) of Tomato Is Compromised in Signaling for Defense against Insect Attack, 2067–2077
R. Mayer, D. Raventos, and N.-H. Chua: *det1*, *cop1*, and *cop9* Mutations Cause Inappropriate Expression of Several Gene Sets, 1951–1959
D. L. Nuss: Using Hypoviruses to Probe and Perturb Signal Transduction Processes Underlying Fungal Pathogenesis, 1845–1853
J. A. Ryals, U. H. Neuenschwander, M. G. Willits, A. Molina, H.-Y. Steiner, and M. D. Hunt: Systemic Acquired Resistance, 1809–1819
K. Schumaker: Spikes and Waves: Calcium-Mediated Signaling in Tip-Growing Cells (In This Issue), 1915–1916
G. Sessa, V. Raz, S. Savaldi, and R. Fluhr: PK12, a Plant Dual-Specificity Protein Kinase of the LAMMER Family, Is Regulated by the Hormone Ethylene, 2223–2234
J. Sheng and V. Citovsky: Agrobacterium–Plant Cell DNA Transport: Have Virulence Proteins, Will Travel, 1699–1710
A. R. Taylor, N. F. H. Manison, C. Fernandez, J. Wood, and C. Brownlee: Spatial Organization of Calcium Signaling Involved in Cell Volume Control in the Fucus Rhizoid, 2015–2031
D. Wagner, M. Koloszvari, and P. H. Quail: Two Small Spatially Distinct Regions of Phytochrome B Are Required for Efficient Signaling Rates, 859–871

Small subunit of ribulose-1,5-bisphosphate carboxylase/oxygenase precursor
C. Sulli and S. D. Schwartzbach: A Soluble Protein Is Imported into Euglena Chloroplasts as a Membrane-Bound Precursor, 43–53

Soil communities
J. Handelsman and E. V. Stabb: Biocontrol of Soilborne Plant Pathogens, 1855–1869

***SOS1* gene**
S.-J. Wu, L. Ding, and J.-K. Zhu: *SOS1*, a Genetic Locus Essential for Salt Tolerance and Potassium Acquisition, 617–627

Soybean
J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490
S. Gopalan, D. W. Bauer, J. R. Alfano, A. O. Loniello, S. Y. He, and A. Collmer: Expression of the *Pseudomonas syringae* Avirulence Protein AvrB in Plant Cells Alleviates Its Dependence on the Hypersensitive Response and Pathogenicity (Hrp) Secretion System in Eliciting Genotype-Specific Hypersensitive Cell Death, 1095–1105
P. J. Overvoorde, W. B. Frommer, and H. D. Grimes: A Soybean Sucrose Binding Protein Independently Mediates Nonsaturable Sucrose Uptake in Yeast, 271–280
J. J. Todd and L. O. Vodkin: Duplications That Suppress and Deletions That Restore Expression from a Chalcone Synthase Multigene Family, 687–699

Spinach
M. Bachmann, N. Shiraishi, W. H. Campbell, B.-C. Yoo, A. C. Harmon, and S. C. Huber: Identification of Ser-543 as the Major Regulatory Phosphorylation Site in Spinach Leaf Nitrate Reductase, 505–517
I. Johansson, C. Larsson, B. Ek, and P. Kjellbom: The Major Integral Proteins of Spinach Leaf Plasma Membranes Are Putative Aquaporins and Are Phosphorylated in Response to Ca^{2+} and Apoplastic Water Potential, 1181–1191
J. Yang, G. Schuster, and D. B. Stern: CSP41, a Sequence-Specific Chloroplast mRNA Binding Protein, Is an Endoribonuclease, 1409–1420

Splicing factors
S. Lopato, E. Waigmann, and A. Barta: Characterization of a Novel Arginine/Serine–Rich Splicing Factor in Arabidopsis, 2255–2264

Splicing patterns
A. J. McCullough, C. E. Baynton, and M. A. Schuler: Interactions across Exons Can Influence Splice Site Recognition in Plant Nuclei, 2295–2307

Starch biosynthesis
G. Mouille, M.-L. Maddelein, N. Libessart, P. Talaga, A. Decq, B. Delrue, and S. Ball: Preamylopectin Processing: A Mandatory Step for Starch Biosynthesis in Plants, 1353–1366

Starch granules
J. Marshall, C. Sidebottom, M. Debet, C. Martin, A. M. Smith, and A. Edwards: Identification of the Major Starch Synthase in the Soluble Fraction of Potato Tubers, 1121–1135

Starch synthase
J. Marshall, C. Sidebottom, M. Debet, C. Martin, A. M. Smith, and A. Edwards: Identification of the Major Starch Synthase in the Soluble Fraction of Potato Tubers, 1121–1135

Stigma
J. C. Stein, R. Dixit, M. E. Nasrallah, and J. B. Nasrallah: SRK, the Stigma-Specific S Locus Receptor Kinase of Brassica, Is Targeted to the Plasma Membrane in Transgenic Tobacco, 429–445
K. Yu, U. Schafer, T. L. Glavin, D. R. Goring, and S. J. Rothstein: Molecular Characterization of the *S* Locus in Two Self-Incompatible *Brassica napus* Lines, 2369–2380

***STP4* gene**
E. Truernit, J. Schmid, P. Epple, J. Illig, and N. Sauer: The Sink-Specific and Stress-Regulated Arabidopsis *STP4* Gene: Enhanced Expression of a Gene Encoding a Monosaccharide Transporter by Wounding, Elicitors, and Pathogen Challenge, 2169–2182

Sucrose
J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490

Sucrose binding protein
P. J. Overvoorde, W. B. Frommer, and H. D. Grimes: A Soybean Sucrose Binding Protein Independently Mediates Nonsaturable Sucrose Uptake in Yeast, 271–280

Sucrose export
W. A. Russin, R. F. Evert, P. J. Vanderveer, T. D. Sharkey, and S. P. Briggs: Modification of a Specific Class of Plasmodesmata and Loss of Sucrose Export Ability in the *sucrose export defective1* Maize Mutant, 645–658
M. Stitt: Plasmodesmata Play an Essential Role in Sucrose Export from Leaves: A Step toward an Integration of Metabolic Biochemistry and Cell Biology (In This Issue), 565–571

Sucrose metabolism
J. Xu, W. T. Avigne, D. R. McCarty, and K. E. Koch: A Similar Dichotomy of Sugar Modulation and Developmental Expression Affects Both Paths of Sucrose Metabolism: Evidence from a Maize Invertase Gene Family, 1209–1220

Sucrose synthase genes
J. Xu, W. T. Avigne, D. R. McCarty, and K. E. Koch: A Similar Dichotomy of Sugar Modulation and Developmental Expression Affects Both Paths of Sucrose Metabolism: Evidence from a Maize Invertase Gene Family, 1209–1220

Sugar transport
E. Truernit, J. Schmid, P. Epple, J. Illig, and N. Sauer: The Sink-Specific and Stress-Regulated Arabidopsis *STP4* Gene: Enhanced Expression of a Gene Encoding a Monosaccharide Transporter by Wounding, Elicitors, and Pathogen Challenge, 2169–2182

Sulfur starvation
S. Petrucco, A. Bolchi, C. Foroni, R. Percudani, G. L. Rossi, and S. Ottonello: A Maize Gene Encoding an NADPH Binding Enzyme Highly Homologous to Isoflavone Reductases Is Activated in Response to Sulfur Starvation, 69–80

Suppressors
W. Knogge: Fungal Infection of Plants, 1711–1722

***sxd1* maize mutant**
W. A. Russin, R. F. Evert, P. J. Vanderveer, T. D. Sharkey, and S. P. Briggs: Modification of a Specific Class of Plasmodesmata and Loss of Sucrose Export Ability in the *sucrose export defective1* Maize Mutant, 645–658
M. Stitt: Plasmodesmata Play an Essential Role in Sucrose Export from Leaves: A Step toward an Integration of Metabolic Biochemistry and Cell Biology (In This Issue), 565–571

Sycamore maple
M. N. V. Williams, G. Freshour, A. G. Darvill, P. Albersheim, and M. G. Hahn: An Antibody Fab Selected from a Recombinant Phage Display Library Detects Deesterified Pectic Polysaccharide Rhamnogalacturonan II in Plant Cells, 673–685

Symbiodinium
J. D. Palmer: Rubisco Surprises in Dinoflagellates (In This Issue), 343–345
R. Rowan, S. M. Whitney, A. Fowler, and D. Yellowlees: Rubisco in Marine Symbiotic Dinoflagellates: Form II Enzymes in Eukaryotic Oxygenic Phototrophs Encoded by a Nuclear Multigene Family, 539–553

Symbioses
V. Gianinazzi-Pearson: Plant Cell Responses to Arbuscular Mycorrhizal Fungi: Getting to the Roots of the Symbiosis, 1871–1883
A. O. Jackson and C. B. Taylor: Plant–Microbe Interactions: Life and Death at the Interface, 1651–1668
S. R. Long: *Rhizobium* Symbiosis: Nod Factors in Perspective, 1885–1898
K. Pawlowski and T. Bisseling: Rhizobial and Actinorhizal Symbioses: What Are the Shared Features? 1899–1913

Synthetic peptides
M. Bachmann, N. Shiraishi, W. H. Campbell, B.-C. Yoo, A. C. Harmon, and S. C. Huber: Identification of Ser-543 as the Major Regulatory Phosphorylation Site in Spinach Leaf Nitrate Reductase, 505–517

Systemic acquired resistance
J. Görlach, S. Volrath, G. Knauf-Beiter, G. Hengy, U. Beckhove, K.-H. Kogel, M. Oostendorp, T. Staub, E. Ward, H. Kessmann, and J. Ryals: Benzothiadiazole, a Novel Class of Inducers of Systemic Acquired Resistance, Activates Gene Expression and Disease Resistance in Wheat, 629–643
K. Herbers, P. Meuwly, W. B. Frommer, J.-P. Métraux, and U. Sonnewald: Systemic Acquired Resistance Mediated by the Ectopic Expression of Invertase: Possible Hexose Sensing in the Secretory Pathway, 793–803
I. A. M. A. Penninckx, K. Eggermont, F. R. G. Terras, B. P. H. J. Thomma, G. W. De Samblanx, A. Buchala, J.-P. Métraux, J. M. Manners, and W. F. Broekaert: Pathogen-Induced Systemic Activation of a Plant Defensin Gene in Arabidopsis Follows a Salicylic Acid–Independent Pathway, 2309–2323
J. A. Ryals, U. H. Neuenschwander, M. G. Willits, A. Molina, H.-Y. Steiner, and M. D. Hunt: Systemic Acquired Resistance, 1809–1819

T

T-DNA genes
S. B. Narasimhulu, X.-b. Deng, R. Sarria, and S. B. Gelvin: Early Transcription of Agrobacterium T-DNA Genes in Tobacco and Maize, 873–886

T-DNA mapping
R. ten Hoopen, T. P. Robbins, P. F. Fransz, B. M. Montijn, O. Oud, A. G. M. Gerats, and N. Nanninga: Localization of T-DNA Insertions in Petunia by Fluorescence in Situ Hybridization: Physical Evidence for Suppression of Recombination, 823–830

TGA3
D. B. Szymanski, B. Liao, and R. E. Zielinski: Calmodulin Isoforms Differentially Enhance the Binding of Cauliflower Nuclear Proteins and Recombinant TGA3 to a Region Derived from the Arabidopsis *Cam-3* Promoter, 1069–1077

Thioredoxins
M. S. Bower, D. D. Matias, E. Fernandes-Carvalho, M. Mazzurco, T. Gu, S. J. Rothstein, and D. R. Goring: Two Members of the Thioredoxin-h Family Interact with the Kinase Domain of a Brassica *S* Locus Receptor Kinase, 1641–1650

TINY
K. Wilson, D. Long, J. Swinburne, and G. Coupland: A *Dissociation* Insertion Causes a Semidominant Mutation That Increases Expression of *TINY*, an Arabidopsis Gene Related to *APETALA2*, 659–671

δ-TIP
M. J. Daniels, F. Chaumont, T. E. Mirkov, and M. J. Chrispeels: Characterization of a New Vacuolar Membrane Aquaporin Sensitive to Mercury at a Unique Site, 587–599

Tobacco
J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490
G. C. Allen, G. Hall, Jr., S. Michalowski, W. Newman, S. Spiker, A. K. Weissinger, and W. F. Thompson: High-Level Transgene Expression in Plant Cells: Effects of a Strong Scaffold Attachment Region from Tobacco, 899–913
D. Bellincampi, M. Cardarelli, D. Zaghi, G. Serino, G. Salvi, C. Gatz, F. Cervone, M. M. Altamura, P. Costantino, and G. De Lorenzo: Oligogalacturonides Prevent Rhizogenesis in *rolB*-Transformed Tobacco Explants by Inhibiting Auxin-Induced Expression of the *rolB* Gene, 477–487
C. E. Coleman, E. M. Herman, K. Takasaki, and B. A. Larkins: The Maize γ-Zein Sequesters α-Zein and Stabilizes Its Accumulation in Protein Bodies of Transgenic Tobacco Endosperm, 2335–2345
J. Goodwin, K. Chapman, S. Swaney, T. D. Parks, E. A. Wernsman, and W. G. Dougherty: Genetic and Biochemical Dissection of Transgenic RNA-Mediated Virus Resistance, 95–105
K. Herbers, P. Meuwly, W. B. Frommer, J.-P. Métraux, and U. Sonnewald: Systemic Acquired Resistance Mediated by the Ectopic Expression of Invertase: Possible Hexose Sensing in the Secretory Pathway, 793–803
G. R. Hicks, H. M. S. Smith, S. Lobreaux, and N. V. Raikhel: Nuclear Import in Permeabilized Protoplasts from Higher Plants Has Unique Features, 1337–1352
H. Hirochika, H. Otsuki, M. Yoshikawa, Y. Otsuki, K. Sugimoto, and S. Takeda: Autonomous Transposition of the Tobacco Retrotransposon *Tto1* in Rice, 725–734
B. Liu, R. J. Cyr, and B. A. Palevitz: A Kinesin-like Protein, KatAp, in the Cells of Arabidopsis and Other Plants, 119–132
C. Lurin, D. Geelen, H. Barbier-Brygoo, J. Guern, and C. Maurel: Cloning and Functional Expression of a Plant Voltage-Dependent Chloride Channel, 701–711
J. Marc, D. E. Sharkey, N. A. Durso, M. Zhang, and R. J. Cyr: Isolation of a 90-kD Microtubule-Associated Protein from Tobacco Membranes, 2127–2138
A. J. McCullough, C. E. Baynton, and M. A. Schuler: Interactions across Exons Can Influence Splice Site Recognition in Plant Nuclei, 2295–2307
R. Mittler, V. Shulaev, M. Seskar, and E. Lam: Inhibition of Programmed Cell Death in Tobacco Plants during a Pathogen-Induced Hypersensitive Response at Low Oxygen Pressure, 1991–2001
S. B. Narasimhulu, X.-b. Deng, R. Sarria, and S. B. Gelvin: Early Transcription of Agrobacterium T-DNA Genes in Tobacco and Maize, 873–886
D. J. Oldenburg and A. J. Bendich: Size and Structure of Replicating Mitochondrial DNA in Cultured Tobacco Cells, 447–461
D. Qian, D. Zhou, R. Ju, C. L. Cramer, and Z. Yang: Protein Farnesyltransferase in Plants: Molecular Characterization and Involvement in Cell Cycle Control, 2381–2394
G. Sessa, V. Raz, S. Savaldi, and R. Fluhr: PK12, a Plant Dual-Specificity Protein Kinase of the LAMMER Family, Is Regulated by the Hormone Ethylene, 2223–2234

J. C. Stein, R. Dixit, M. E. Nasrallah, and J. B. Nasrallah: SRK, the Stigma-Specific S Locus Receptor Kinase of Brassica, Is Targeted to the Plasma Membrane in Transgenic Tobacco, 429–445

B. Überlacker, B. Klinge, and W. Werr: Ectopic Expression of the Maize Homeobox Genes *ZmHox1a* or *ZmHox1b* Causes Pleiotropic Alterations in the Vegetative and Floral Development of Transgenic Tobacco, 349–362

Tobacco etch virus

J. Goodwin, K. Chapman, S. Swaney, T. D. Parks, E. A. Wernsman, and W. G. Dougherty: Genetic and Biochemical Dissection of Transgenic RNA-Mediated Virus Resistance, 95–105

Tobacco mosaic virus

R. S. Beffa, R.-M. Hofer, M. Thomas, and F. Meins, Jr.: Decreased Susceptibility to Viral Disease of β-1,3-Glucanase–Deficient Plants Generated by Antisense Transformation, 1001–1011

J. C. Carrington, K. D. Kasschau, S. K. Mahajan, and M. C. Schaad: Cell-to-Cell and Long-Distance Transport of Viruses in Plants, 1669–1681

R. Mittler, V. Shulaev, M. Seskar, and E. Lam: Inhibition of Programmed Cell Death in Tobacco Plants during a Pathogen-Induced Hypersensitive Response at Low Oxygen Pressure, 1991–2001

Z. F. Taraporewala and J. N. Culver: Identification of an Elicitor Active Site within the Three-Dimensional Structure of the Tobacco Mosaic Tobamovirus Coat Protein, 169–178

Tobacco necrosis virus

R. S. Beffa, R.-M. Hofer, M. Thomas, and F. Meins, Jr.: Decreased Susceptibility to Viral Disease of β-1,3-Glucanase–Deficient Plants Generated by Antisense Transformation, 1001–1011

Tomato

G. J. Bishop, K. Harrison, and J. D. G. Jones: The Tomato *Dwarf* Gene Isolated by Heterologous Transposon Tagging Encodes the First Member of a New Cytochrome P450 Family, 959–969

C. M. Calvert, S. J. Gant, and D. J. Bowles: Tomato Annexins p34 and p35 Bind to F-Actin and Display Nucleotide Phosphodiesterase Activity Inhibited by Phospholipid Binding, 333–342

N. Ferrol and A. B. Bennett: A Single Gene May Encode Differentially Localized Ca^{2+}-ATPases in Tomato, 1159–1169

G. A. Howe, J. Lightner, J. Browse, and C. A. Ryan: An Octadecanoid Pathway Mutant (JL5) of Tomato Is Compromised in Signaling for Defense against Insect Attack, 2067–2077

M. Kooman-Gersmann, G. Honée, G. Bonnema, and P. J. G. M. De Wit: A High-Affinity Binding Site for the AVR9 Peptide Elicitor of *Cladosporium fulvum* Is Present on Plasma Membranes of Tomato and Other Solanaceous Plants, 929–938

I. Meier, T. Phelan, W. Gruissem, S. Spiker, and D. Schneider: MFP1, a Novel Plant Filament-like Protein with Affinity for Matrix Attachment Region DNA, 2105–2115

H. Wang, J. Li, R. M. Bostock, and D. G. Gilchrist: Apoptosis: A Functional Paradigm for Programmed Plant Cell Death Induced by a Host-Selective Phytotoxin and Invoked during Development, 375–391

T. Xing, V. J. Higgins, and E. Blumwald: Regulation of Plant Defense Response to Fungal Pathogens: Two Types of Protein Kinases in the Reversible Phosphorylation of the Host Plasma Membrane H^+-ATPase, 555–564

Tonoplast

M. J. Daniels, F. Chaumont, T. E. Mirkov, and M. J. Chrispeels: Characterization of a New Vacuolar Membrane Aquaporin Sensitive to Mercury at a Unique Site, 587–599

N. Ferrol and A. B. Bennett: A Single Gene May Encode Differentially Localized Ca^{2+}-ATPases in Tomato, 1159–1169

***TOX2* gene**

J.-H. Ahn and J. D. Walton: Chromosomal Organization of *TOX2*, a Complex Locus Controlling Host-Selective Toxin Biosynthesis in *Cochliobolus carbonum*, 887–897

Toxin biosynthesis

J.-H. Ahn and J. D. Walton: Chromosomal Organization of *TOX2*, a Complex Locus Controlling Host-Selective Toxin Biosynthesis in *Cochliobolus carbonum*, 887–897

Transcription factors

G. Lu, A.-L. Paul, D. R. McCarty, and R. J. Ferl: Transcription Factor Veracity: Is GBF3 Responsible for ABA-Regulated Expression of Arabidopsis *Adh*?, 847–857

Transduction pathway

N. Giglioli-Guivarc'h, J.-N. Pierre, S. Brown, R. Chollet, J. Vidal, and P. Gadal: The Light-Dependent Transduction Pathway Controlling the Regulatory Phosphorylation of C4 Phospho*enol*pyruvate Carboxylase in Protoplasts from *Digitaria sanguinalis*, 573–586

Transgenes

G. C. Allen, G. Hall, Jr., S. Michalowski, W. Newman, S. Spiker, A. K. Weissinger, and W. F. Thompson: High-Level Transgene Expression in Plant Cells: Effects of a Strong Scaffold Attachment Region from Tobacco, 899–913

J. J. English, E. Mueller, and D. C. Baulcombe: Suppression of Virus Accumulation in Transgenic Plants Exhibiting Silencing of Nuclear Genes, 179–188

J. Goodwin, K. Chapman, S. Swaney, T. D. Parks, E. A. Wernsman, and W. G. Dougherty: Genetic and Biochemical Dissection of Transgenic RNA-Mediated Virus Resistance, 95–105

Ľ. Mlynárová, L. C. P. Keizer, W. J. Stiekema, and J.-P. Nap: Approaching the Lower Limits of Transgene Variability, 1589–1599

T. Sijen, J. Wellink, J.-B. Hiriart, and A. van Kammen: RNA-Mediated Virus Resistance: Role of Repeated Transgenes and Delineation of Targeted Regions, 2277–2294

Transit peptide

P. J. Tranel and K. Keegstra: A Novel, Bipartite Transit Peptide Targets OEP75 to the Outer Membrane of the Chloroplastic Envelope, 2093–2104

Tridacna gigas

R. Rowan, S. M. Whitney, A. Fowler, and D. Yellowlees: Rubisco in Marine Symbiotic Dinoflagellates: Form II Enzymes in Eukaryotic Oxygenic Phototrophs Encoded by a Nuclear Multigene Family, 539–553

Trienoic fatty acids

M. McConn and J. Browse: The Critical Requirement for Linolenic Acid Is Pollen Development, Not Photosynthesis, in an Arabidopsis Mutant, 403–416

***trp* mutants**

J. Zhao and R. L. Last: Coordinate Regulation of the Tryptophan Biosynthetic Pathway and Indolic Phytoalexin Accumulation in Arabidopsis, 2235–2244

Tryptophan biosynthesis

J. Zhao and R. L. Last: Coordinate Regulation of the Tryptophan Biosynthetic Pathway and Indolic Phytoalexin Accumulation in Arabidopsis, 2235–2244

Tto1

H. Hirochika, H. Otsuki, M. Yoshikawa, Y. Otsuki, K. Sugimoto, and S. Takeda: Autonomous Transposition of the Tobacco Retrotransposon *Tto1* in Rice, 725–734

T-toxin

G. Yang, M. S. Rose, B. G. Turgeon, and O. C. Yoder: A Polyketide Synthase Is Required for Fungal Virulence and Production of the Polyketide T-Toxin, 2139–2150

Tubules

J. C. Carrington, K. D. Kasschau, S. K. Mahajan, and M. C. Schaad: Cell-to-Cell and Long-Distance Transport of Viruses in Plants, 1669–1681

Tubulin binding proteins

J. Marc, D. E. Sharkey, N. A. Durso, M. Zhang, and R. J. Cyr: Isolation of a 90-kD Microtubule-Associated Protein from Tobacco Membranes, 2127–2138

U

U1 small nuclear ribonucleoprotein particle 70K gene

M. Golovkin and A. S. N. Reddy: Structure and Expression of a Plant U1 snRNP 70K Gene: Alternative Splicing of U1 snRNP 70K Pre-mRNAs Produces Two Different Transcripts, 1421–1435

Unilateral incompatibility

J. Murfett, T. J. Strabala, D. M. Zurek, B. Mou, B. Beecher, and B. A. McClure: *S* RNase and Interspecific Pollen Rejection in the Genus *Nicotiana*: Multiple Pollen-Rejection Pathways Contribute to Unilateral Incompatibility between Self-Incompatible and Self-Compatible Species, 943–958

C. B. Taylor: More Arresting Developments: *S* RNases and Interspecific Incompatibility (In This Issue), 939–941

Uronide binding protein
P. Reymond, B. Kunz, K. Paul-Pletzer, R. Grimm, C. Eckerskorn, and E. E. Farmer: Cloning of a cDNA Encoding a Plasma Membrane–Associated, Uronide Binding Phosphoprotein with Physical Properties Similar to Viral Movement Proteins, 2265–2276

V

Vegetative development
D. F. Mandoli and B. E. Hunt: *kurkku*, a Phenotype of *Acetabularia acetabulum* That Is Arrested in Vegetative Growth, Can Be Rescued with Wild-Type Cytoplasm, 323–332
B. Überlacker, B. Klinge, and W. Werr: Ectopic Expression of the Maize Homeobox Genes *ZmHox1a* or *ZmHox1b* Causes Pleiotropic Alterations in the Vegetative and Floral Development of Transgenic Tobacco, 349–362

Vegetative growth
X.-Q. Li, M. Zhang, and G. G. Brown: Cell-Specific Expression of Mitochondrial Transcripts in Maize Seedlings, 1961–1975

Virulence genes
S. B. Narasimhulu, X.-b. Deng, R. Sarria, and S. B. Gelvin: Early Transcription of Agrobacterium T-DNA Genes in Tobacco and Maize, 873–886

Virulence proteins
B. Guralnick, G. Thomsen, and V. Citovsky: Transport of DNA into the Nuclei of Xenopus Oocytes by a Modified VirE2 Protein of Agrobacterium, 363–373
J. Sheng and V. Citovsky: Agrobacterium–Plant Cell DNA Transport: Have Virulence Proteins, Will Travel, 1699–1710

Virus resistance
R. S. Beffa, R.-M. Hofer, M. Thomas, and F. Meins, Jr.: Decreased Susceptibility to Viral Disease of β-1,3-Glucanase–Deficient Plants Generated by Antisense Transformation, 1001–1011
J. J. English, E. Mueller, and D. C. Baulcombe: Suppression of Virus Accumulation in Transgenic Plants Exhibiting Silencing of Nuclear Genes, 179–188
J. Goodwin, K. Chapman, S. Swaney, T. D. Parks, E. A. Wernsman, and W. G. Dougherty: Genetic and Biochemical Dissection of Transgenic RNA-Mediated Virus Resistance, 95–105

VIVIPAROUS1
C.-Y. Kao, S. M. Cocciolone, I. K. Vasil, and D. R. McCarty: Localization and Interaction of the *cis*-Acting Elements for Abscisic Acid, VIVIPAROUS1, and Light Activation of the *C1* Gene of Maize, 1171–1179

W

Water deficit
T. Kiyosue, Y. Yoshiba, K. Yamaguchi-Shinozaki, and K. Shinozaki: A Nuclear Gene Encoding Mitochondrial Proline Dehydrogenase, an Enzyme Involved in Proline Metabolism, Is Upregulated by Proline but Downregulated by Dehydration in Arabidopsis, 1323–1335
D. Rentsch, B. Hirner, E. Schmelzer, and W. B. Frommer: Salt Stress–Induced Proline Transporters and Salt Stress–Repressed Broad Specificity Amino Acid Permeases Identified by Suppression of a Yeast Amino Acid Permease–Targeting Mutant, 1437–1446
C. B. Taylor: Proline and Water Deficit: Ups, Downs, Ins, and Outs (In This Issue), 1221–1224

Waxy
L. Wang, M. Heinlein, and R. Kunze: Methylation Pattern of *Activator* Transposase Binding Sites in Maize Endosperm, 747–758

WCI genes
J. Görlach, S. Volrath, G. Knauf-Beiter, G. Hengy, U. Beckhove, K.-H. Kogel, M. Oostendorp, T. Staub, E. Ward, H. Kessmann, and J. Ryals: Benzothiadiazole, a Novel Class of Inducers of Systemic Acquired Resistance, Activates Gene Expression and Disease Resistance in Wheat, 629–643

Wheat
J. Görlach, S. Volrath, G. Knauf-Beiter, G. Hengy, U. Beckhove, K.-H. Kogel, M. Oostendorp, T. Staub, E. Ward, H. Kessmann, and J. Ryals: Benzothiadiazole, a Novel Class of Inducers of Systemic Acquired Resistance, Activates Gene Expression and Disease Resistance in Wheat, 629–643
X. Niu, C. C. Adams, J. L. Workman, and M. J. Guiltinan: Binding of the Wheat Basic Leucine Zipper Protein EmBP-1 to Nucleosomal Binding Sites Is Modulated by Nucleosome Positioning, 1569–1587

Wounding
J. H. Ahn, Y. Choi, Y. M. Kwon, S.-G. Kim, Y. D. Choi, and J. S. Lee: A Novel Extensin Gene Encoding a Hydroxyproline-Rich Glycoprotein Requires Sucrose for Its Wound-Inducible Expression in Transgenic Plants, 1477–1490
E. Truernit, J. Schmid, P. Epple, J. Illig, and N. Sauer: The Sink-Specific and Stress-Regulated Arabidopsis *STP4* Gene: Enhanced Expression of a Gene Encoding a Monosaccharide Transporter by Wounding, Elicitors, and Pathogen Challenge, 2169–2182

X

Xanthomonas oryzae* pv *oryzae
S. A. Young, X. Wang, and J. E. Leach: Changes in the Plasma Membrane Distribution of Rice Phospholipase D during Resistant Interactions with *Xanthomonas oryzae* pv *oryzae*, 1079–1090

Xenopus
B. Guralnick, G. Thomsen, and V. Citovsky: Transport of DNA into the Nuclei of Xenopus Oocytes by a Modified VirE2 Protein of Agrobacterium, 363–373
C. Lurin, D. Geelen, H. Barbier-Brygoo, J. Guern, and C. Maurel: Cloning and Functional Expression of a Plant Voltage-Dependent Chloride Channel, 701–711

Y

Yeast
D. A. Belostotsky and R. B. Meagher: A Pollen-, Ovule-, and Early Embryo-Specific Poly(A) Binding Protein from Arabidopsis Complements Essential Functions in Yeast, 1261–1275
P. R. Fobert, V. Gaudin, P. Lunness, E. S. Coen, and J. H. Doonan: Distinct Classes of *cdc2*-Related Genes Are Differentially Expressed during the Cell Division Cycle in Plants, 1465–1476
P. J. Overvoorde, W. B. Frommer, and H. D. Grimes: A Soybean Sucrose Binding Protein Independently Mediates Nonsaturable Sucrose Uptake in Yeast, 271–280
D. Rentsch, B. Hirner, E. Schmelzer, and W. B. Frommer: Salt Stress–Induced Proline Transporters and Salt Stress–Repressed Broad Specificity Amino Acid Permeases Identified by Suppression of a Yeast Amino Acid Permease–Targeting Mutant, 1437–1446
T. Ueda, N. Matsuda, T. Anai, H. Tsukaya, H. Uchimiya, and A. Nakano: An Arabidopsis Gene Isolated by a Novel Method for Detecting Genetic Interaction in Yeast Encodes the GDP Dissociation Inhibitor of Ara4 GTPase, 2079–2091

Z

Zeins
C. E. Coleman, E. M. Herman, K. Takasaki, and B. A. Larkins: The Maize γ-Zein Sequesters α-Zein and Stabilizes Its Accumulation in Protein Bodies of Transgenic Tobacco Endosperm, 2335–2345

Zygotes
K. Schumaker: Spikes and Waves: Calcium-Mediated Signaling in Tip-Growing Cells (In This Issue), 1915–1916
A. R. Taylor, N. F. H. Manison, C. Fernandez, J. Wood, and C. Brownlee: Spatial Organization of Calcium Signaling Involved in Cell Volume Control in the Fucus Rhizoid, 2015–2031